

Science, Technology and Education News from China

Number 97 – July 2012

Please note that the previous newsletters can be downloaded from the website of the Embassy of Switzerland in China: www.eda.admin.ch/beijing¹. To subscribe/unsubscribe or send us your comments, please send an email with the corresponding subject to chenchen.liu@eda.admin.ch.

Introduction

This month's newsletter opens with an analysis of a new guideline released by the Chinese State Council on science and technology, which prioritizes the innovation of the private sector. In education, Yale University cancelled their summer program with Peking University on the ground of low enrolment. The pursuit of academic reputation and career prospects has driven many Chinese to buy fake degrees. University admission sees a lower bar for male than female students, which caused wide controversy. In Science and Technology, China successfully launched another data relay satellite which completed its data relay satellite network. In health, the healthcare reform is expanding nationwide, but not without difficulties and resistance. The health authority is launching the biggest crackdown on antibiotic abuse.

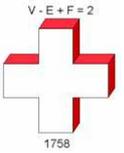
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¹ Please click on the blue texts to activate the hyperlinks to either email addresses or related websites.



Policies

Putting Chinese Businesses to Research

The month of July featured a Chinese National Science and Innovation Conference with the presence of top Chinese political leaders as well as key stakeholders of science and technology. A Chinese State Council's guideline for reforming science administration and promoting innovation was communicated to the delegates during the conference. The document aims at redirecting the priorities of S&T development in the coming years to **reform administrative frameworks** and to **create a stronger link between research, innovation and economic development**. Encouraging domestic businesses to the frontline of innovation has become a key message in the new guideline.

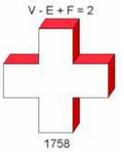
Looking at the *Global Innovation Index 2012*², China ranked **34th** in innovation capacity and **25th** in gross expenditure on R&D/GDP. Chinese science and technology institutes ranked **26th** in terms of quality of output. Compared to previous years, China has been making steady progress on research and innovation, but innovation within the private sector has not been matching the speed of development. Chinese businesses ranked **73th** in businesses innovation linkage and **28th** in university/industry research collaboration in the *Index*. Domestic statistics released by the Ministry of Science and Technology also reflected similar problems. 2011 statistics³ showed that only 8.5% of the Chinese businesses are involved in R&D activities, and average R&D spending accounts for only 0.7% of the business revenue. Survey also indicated that only 10.3% and 2.6% of R&D activities conducted by businesses are realized through partnerships with universities and research institutes, and only 2.8% of the R&D is conducted through international collaboration.

The new guideline was designed to address the challenges by positioning businesses as the **“main player in R&D spending, R&D activities and technology transfer.”** One of the quantitative goals is to drive R&D spending of large and medium enterprises to 1.5% of the revenue by 2015, up from the 0.93% this year. To reach this goal, policies are tailor-made to involve businesses in R&D and innovation activities and to facilitate academic-industry partnership, such as bringing businesses in the decision-making process of major government-funded science and technology programs, assigning competent businesses to chair the government-funded technological development programs, encouraging businesses to proactively collaborate with international partners in R&D, and mandating universities and research institutes to support business innovation through personnel exchange, collaborative innovation and resource sharing. On local level, local governments stand ready to offer research funding, infrastructure support, preferential personnel policy for innovative businesses. On central level, the Chinese Ministry of Science and Technology has mandated all the science diplomats to proactively match domestic and foreign businesses together for potential research collaboration.

The new guideline does provide support to businesses that are already seeking innovation-based growth. It also reaffirms Chinese authorities' commitment to boost the innovation capacity of the private sector, but the initiative seems to be more about bombarding Chinese businesses with resources and support and dragging them to R&D activities rather than creating a stimulating business environment and a well-established legal and policy framework to drive up the incentives of the businesses to innovate. With IPR infringement, academic fraud and personal-connection based funding allocations continue to plague China's research sector, generous government support would also risk being manipulated and eventually misused by less competent businesses. After all, innovation is not something that can be planned, nor will it be a guaranteed success with government support. In the case of innovation in the private sector, it echoes with the old saying—you can lead a horse to water, but you can't make it drink.

² Global Innovation Index 2012, full report available at: <http://www.globalinnovationindex.org/gii/main/fullreport/files/aFrontmatter/The%20Global%20Innovation%20Index%202011-2012%20Rankings.pdf>

³ China R&D Statistics 2011, full report (in Chinese) available at: <http://www.stats.gov.cn/tjgb/rdpcgb/>



News

1. **Satellite Launch Completes Network**

(China Daily, 27-07-2012)

A Tianlian I-03 satellite was launched from the Xichang Satellite Launch Center in Sichuan province on July 25th, completing the country's first data relay satellite network.

The network will be crucial to the manned space program, which aims to build a space station around 2020, experts said.

The satellite was launched on a Long March 3C rocket at 11:43 pm, according to the center.

Developed by the China Academy of Space Technology, under the China Aerospace Science and Technology Corp., the satellite will join two orbiting predecessors to boost the network.

The first data relay satellite, Tianlian I-01, was launched in April 2008, and the second was launched in July 2011.

The center said the third satellite is expected to improve network coverage of measurement and control services for China's manned spacecraft as well as the planned construction of future space labs and a space station.

Liu Jin, deputy chief designer of the Tianlian I satellite project, said that scientists from the manned space program used to rely on ground stations and ships to track and control the spacecraft.

But these methods only allowed the spacecraft to be tracked in just 15 percent of their orbit. For the other 85 percent, there was no communication between the spacecraft and the ground control, he said.

After the first two Tianlian I satellites were launched, coverage expanded to 70 percent.

In the latest manned space mission, the Shenzhou IX spacecraft and Tiangong-1 space lab module circled around the Earth every 90 minutes. Thanks to the two Tianlian I satellites, communication between Earth and orbiting craft can continue for more than 60 minutes in each circle, he said.

This, obviously, gave ground control more precise knowledge of the orbiting craft and the three astronauts, allowing it to provide better support, he said.

"It's crucial to China's manned space program," he said.

And after a space station is assembled in 2020, astronauts on long missions will be able to contact ground control at any time.

The network will also offer data relay services for medium and low-Earth orbits as well as measurement and control support for launches.

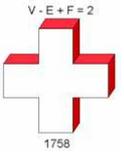
The launch marked the 166th mission of China's Long March series of rockets.

(http://usa.chinadaily.com.cn/china/2012-07/26/content_15620779.htm)

2. **Health-care Reform: Heroes Dare to Cross**

(Economist, 21-07-2012)

When China's market reforms began in 1978 medical user fees soared. The share of total health spending borne by patients rose from 20% in 1978 to nearly 60% in 2001. State-owned enterprises, which had once shouldered much of the burden, crumbled, and in 2000 the World Health Organisation ranked China fourth from last among 191 countries in terms of the fairness of financial contributions to its health system. Health care became one of the country's most explosive social issues. The share of patient spending has since fallen as the government began to address the problem but the latest reform measures are part of an accelerated drive to overhaul the system.



Reform began in earnest in 2009 with a pledge to spend more than \$120 billion over three years. Funding has been poured into new community-health centers and training for doctors to staff them, and has enabled 172m more Chinese people to join subsidized insurance schemes. By the end of 2011, 95% of citizens had some form of insurance, up from less than one-third in 2003 (though a recent study in the Lancet, a British journal, found that the percentage of households suffering “catastrophic” health expenses barely changed between 2003 and 2011).

These measures have done little to solve a fundamental cause of public dissatisfaction with the health service: the fact that hospitals pay for their staff by selling medicine. Gordon Liu of Peking University says about 40% of hospital revenues typically come from such sales, with another 40-50% from services such as diagnostic tests and treatments. Less than 10% comes directly from the government.

On June 25th the Ministry of Health told 311 of the more than 2,000 counties in China to experiment with reforms aimed at weaning hospitals away from medicine sales. This month they were joined by a sprinkling of larger city hospitals, including Beijing’s Friendship Hospital (built by the Soviet Union as a comradely gift) and all the public hospitals in the southern city of Shenzhen. Xinhua, a state-run news agency, said these hospitals had embarked on “the boldest and hardest part” of China’s medical overhaul.

Official media say the cut in the price of medicines will cost the hospital about 2m yuan in lost revenue this year. The government, they add, has promised to help cover this. But many experts believe that doctors and hospital administrators will have misgivings about the reforms. Doctors risk losing not only the direct benefits they receive from medicine sales, but also the kickbacks they receive from medicine companies when they stock their products and prescribe them.

Mr Liu of Peking University reckons this “grey income” can amount to much more than doctors’ official salaries or what they receive from the mark-up on medicine sales. Because it is under the table, officials struggle to factor it into their reforms. Yet they are reluctant to boost doctors’ salaries, not least because they worry that many others on the government payroll would immediately demand pay rises too.

As Zhu Hengpeng of the Chinese Academy of Social Sciences points out, progress in the 311 counties chosen so far may not offer a clear guide as to how reform on a wider scale will work. Doctors will worry most in the poorest counties, where governments may well be unwilling to make up for their losses. But officials say they want to extend the reforms nationwide late next year at the county level. The plan is for all public hospitals to put them into practice by 2015.

(<http://www.economist.com/node/21559379?zid=306&ah=1b164dbd43b0cb27ba0d4c3b12a5e227>)

3. Fake Degrees: A Quick Study

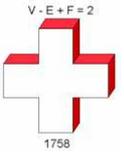
(Economist, 7-07-2012)

ALMOST 7m students are graduating from Chinese universities this summer, and there is plenty of pressure to turn newly minted qualifications into well-paid jobs. The competition is increased by the ease with which almost anyone in China can buy a fake degree.

On July 3rd a former Ministry of Education official went on trial in Beijing charged with swindling students who hoped to study in America. The man, and three others, are alleged to have posed as agents for a non-existent American college called “Nation University”.

As well as ripping off aspiring students, Chinese crooks also cater to businessmen who want to plump up their CVs. In April nine people stood trial in the capital charged with selling fake degree certificates from non-existent American colleges. They charged up to 190,000 yuan (\$30,000) each, selling the diplomas mainly to corporate executives. The businessmen paid up, went to a few classes and received the diplomas, with no exam required.

For those who cannot afford a degree from a fake foreign university, more than 100 fake Chinese universities now offer diplomas for sale. Many of them have websites and use names similar to those of real colleges. Some even use doctored photographs to advertise their qualifications: one image online shows a group of students said to be from the non-existent Wuhan University of Industry and Commerce standing in Tiananmen Square—the original photograph shows the same group under a banner proclaiming who they really are: students from the Beijing Institute of Petrochemical Technology.



In one case that came to light in June a group of 68 students had been paying to attend class at what they thought was a programme affiliated with the Shandong Institute of Light Industry. After four years they found out that everything about the programme had been a scam (even though the institute was real), and that the man behind the scheme had vanished.

Xiong Bingqi of Shanghai's (genuine) Jiaotong University says the problem is a lack of government regulation. Slowly, though, computerized anti-fraud systems are being introduced to stop those with dubious certificates from landing government jobs. A growing number of foreign and Chinese companies now check the authenticity of diplomas as well. The Beijing case in April came to light after one victim's certificate for a PhD in business administration from Abraham Lincoln University failed to pass an authenticity test. She alerted police.

Such cases have not stopped the fraudsters, and would-be students are still trying to buy their way to a better career. A diploma can make all the difference in the modern Chinese job hunt. In some cases fee-paying students know they are matriculating with a fake university but see it as an easy way to obtain a diploma. You can buy everything else in China, so why not academic qualifications?

"Chinese people pay more attention to having a diploma than they do to having a real education," says Mr Xiong. "A diploma is worth actual money, whereas an education is not."

<http://www.economist.com/node/21558318?zid=306&ah=1b164dbd43b0cb27ba0d4c3b12a5e227>

4. Crackdown on Antibiotic Abuse

(China Daily, 06-07-2012)

China is stepping up efforts to crack down on widespread prescription drug abuse that is leading to rising levels of antibiotic resistance across the country.

In the latest move to tackle the problem, the Ministry of Health has launched a nationwide surveillance system to document cases of antibiotic-resistant bacteria at 1,349 large public hospitals across the mainland.

There will also be closer monitoring of the system that keeps track of doctors' prescriptions of antibiotics at public hospitals. And tough new regulations to control the clinical use of antibiotics will take effect on Aug 1.

The moves come days after the World Health Organization weighed in on the growing threat from worldwide antibiotic-resistant gonorrhea. In a statement, the WHO warned that millions of people with gonorrhea could be at risk of running out of treatment options unless urgent action is taken.

The ministry estimates that an average of 138 grams of antibiotics are used per person on the mainland each year, nearly 10 times the amount in the United States.

Seventy percent of inpatients and 50 percent of outpatients have prescriptions for antibiotics, according to the ministry.

Research has shown each year deaths related to antibiotic abuse total 80,000 on the Chinese mainland and cost 80 billion yuan (\$13 billion) of the medical budget.

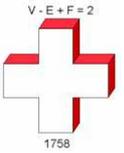
The ministry has now introduced a series of measures, including regulations many have said are the most stringent yet, to regulate the clinical use of antibiotics, which now account for 74 percent of total medicine usage, about 20 to 50 percent more than in Western countries.

[...]

http://www.china.org.cn/china/2012-07/06/content_25836466.htm

5. Boys Have Lower Bar for University Entry

(Xinhua, 24-07-2012)



An NGO that focuses on women's rights has urged authorities to look into allegations that several colleges have lowered their minimum entrance-exam scores only for boys.

In a letter to the Ministry of Education this month, Beijing Zhongze Women's Legal Counseling and Service Center argues that the practice allows schools to discriminate against female candidates.

"Many colleges, including prestigious ones, have set different admission grades based on gender without reasonable explanations," said lawyer Lu Xiaoquan, who was in charge of drafting the NGO's letter.

"It is more demanding for girls than boys, as they must get a higher grade in the national college entrance exam just to get accepted for the same major at the same school."

He said the letter, which was also addressed to the All-China Women's Federation, aims to raise awareness on this issue, and to demand a thorough investigation.

"A few universities claim the Ministry of Education had authorized them to set the admission grades based on gender," Lu said. "We hope for verification from the authorities."

Lu said the NGO has received no reply from the ministry or the federation.

According to the website of Beijing Foreign Studies University, the minimum admission score for girls in Beijing who apply as a German major at the university is 639, while for boys it is 598.

Renmin University of China, another prestigious college, has set a minimum admission score in the capital area in four language majors this year at 601 for boys but 614 for girls.

And this is not happening only in Beijing. According to the Education Examinations Authority of Guangdong province, many universities set different admission standards based on gender in 2012.

Li Xiangqian, director of admissions at Renmin University of China, told China Youth Daily that the purpose of lowering the boys' standards is to attract more male applicants.

"Otherwise, these majors will be left only to girls," he was quoted as saying.

However, Lu, of the Zhongze Women's Center, said there is no such benefit for girls in majors in which boys are the majority, such as mechanics.

Yuan Zhenguo, president of the National Institute of Education Sciences, disagrees that the issue is simply discrimination.

"It reflects the market demand," he said, adding that some jobs need men instead of women.

Zhou Haipeng, a recent graduate who majored in Arabic at Beijing Foreign Studies University, echoed the sentiment.

"Boys have an easier time getting a job in our major," the 22-year-old said, adding that the majority of his classmates end up working in companies related to the Arabic world.

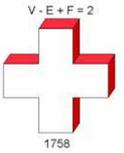
However, Zhou said, in Arabic countries, many local people feel more comfortable working with men.

"Chinese companies respect the religion of their counterparts, who prefer male employees," said Zhou, who will start work soon at an international affairs office in the Guangdong provincial government.

Tan Songhua, a member of the State Education Counseling Committee, acknowledged that students are admitted with different grades in the same college entrance exam.

"The focus of the exam is memorizing, which girls are better at," Tan said.

(http://news.xinhuanet.com/english/china/2012-07/24/c_131735161.htm)



6. Yale University to Cancel Yale-PKU Program

(Yale News Daily, 25-07-2012)

Yale's program sending undergraduates to study at Peking University for credit will be canceled.

The decision to end the Peking University-Yale University Joint Undergraduate Program in Beijing, disclosed to some faculty members in an email from Jane Edwards, dean of international and professional experience, brings an abrupt end to a partnership with Peking University that Yale reaffirmed seven months ago.

The joint exchange program, which was launched in fall 2006, offered Yale students the opportunity to spend a semester living and studying at PKU. John Treat, professor of East Asian languages and literatures and a former member of the Yale-PKU faculty advisory committee, confirmed the decision to the News.

In a statement Yale released on the 25th of July, the University cited "lower than anticipated enrollments" as the reason for the program's cancellation. With only four students set to participate in the program this fall, administrators decided that "the PKU-Yale experience would not be optimal for either students or faculty."

"It is disappointing to all of us that after six years we could not attract a critical mass for this outstanding program," Edwards said in the statement.

Yale students enrolled in the program live with honors students at Peking, and both groups of students take classes taught in English by faculty from the two universities. Yale students receive full course credit at Yale, with all expenses, including airfare, covered by the regular Yale semester tuition. During the official unveiling of the partnership on Nov. 29, 2005, former Yale College Dean Peter Salovey said the program was intended to expand interest in study abroad.

An email sent by a faculty member on the program's advisory committee alleged that the program was "extremely expensive for Yale," and that its language component was "notoriously weak," making it difficult for Yale students to re-enter the Chinese language curriculum upon returning to New Haven.

The program came under fire in December 2007 after ecology and evolutionary biology professor Stephen Stearns sent a strongly worded email to his students at PKU criticizing the widespread plagiarism he witnessed among students and faculty while teaching two courses at the university.

When the two universities agreed to extend Yale-PKU in December 2011, University President Richard Levin called the program a "great success." It is the only program in which Peking University, generally considered the most prestigious higher education institution in China, allows foreign students to live in a dorm with Chinese roommates. PKU requires students from other foreign universities to live in international student dormitories.

Yale emphasized in its statement that PKU remains one of the University's strongest international partners and that PKU students will continue to have the opportunity to take summer courses at Yale — a program that began in 2005.

(<http://www.yaledailynews.com/news/2012/jul/25/yale-pku-program-be-canceled/>)

Events (August– September 2012)

August 2012

1st International Conference on Agro-Geoinformatics

Date: August 2nd to 4th

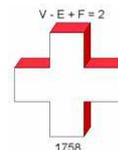
Place: Shanghai

Contact:

<http://www.agro-geoinformatics2012.org>

International Conference on Management and Service Science (MASS 2012)

Date: August 10th to 12th



Place: Shanghai
Contact: <http://www.massconf.org/2012/>

2nd Environmental-Enhancing Energy and Bio-chemicals Conference 2012

Date: August 11th to 13th
Place: Shanghai
Contact: <http://e2-chemicals.sjtu.edu.cn>

6th International Conference on Industrial Engineering and Management

Date: August 14th to 16th
Place: Zhengzhou
Contact: <http://www.ieee-iciem.org/>

The 5th International Symposium on Biomolecular Archeology

Date: August 15th
Place: Beijing
Contact: Graduate University, CAS

The 10th China International Exhibition for Roofing and Waterproofing

Date: August 15^h
Place: Shanghai
Contact: Shanghai National Building Materials Group Corporation

5th International Conference on High Speed Machining (ICHSM 2012)

Date: August 15th to 16th
Place: Jinan
Contact: <http://ichsm2012.sdu.edu.cn/>

China Health Forum

Date: August 16th to 18th
Place: Beijing
Contact: <http://www.chf-bj.org/>

The 3rd International Conference on Internet Technology and Applications

Date: August 18th to 20th

Place: Wuhan
Contact: <http://www.itapconf.org/2012/>

The 23rd International Congress of Theoretical and Applied Mechanics

Date: August 19th
Place: Beijing
Contact: The Chinese Society of Theoretical and Applied Mechanics, CAST

Asian Congress on Gas Turbines 2012

Date: August 20th
Place: Shanghai
Contact: CAS

Sanya International Solar Thermal Power Technology Forum

Date: August 21st to 23rd
Place: Sanya
Contact: <http://www.systp.com.cn>

Barbecue Lectures : Philanthropy

Date: August 30th
Place: Shanghai
Contact: www.swissnexchina.org

4th International Conference on Intelligent Human-Machine Systems and Cybernetics (IHMSC 2012)

Date: August 26th to 27th
Place: Nanchang
Contact: <http://ihmsc.zju.edu.cn/>

Challenges in Nanoscience, the International Symposia on Advancing the Chemical Sciences (ISACS9)

Date: August 31st to September 3rd
Place: Xiamen
Contact: Xiamen University

September 2012

2012 International Conference on Green Buildings and Optimization Design

Date: September 6th to 7th
Place: Shenyang
Contact: Shenyang Normal University

2nd International Symposium on Laser Interaction and Matter

Date: September 9th to 12th
Place: Xi'an
Contact: <http://www.limisconf.org/>

Nanotoxicology

Date: September 10th

Place: Beijing
Contact: National Center for Nano Science and Technology, CAS

2012 International Conference on Particle Physics and Cosmology

Date: September 10th
Place: Beijing
Contact: National Observatory, CAS

2nd Symposium on Innovative Polymers for Controlled Delivery

Date: September 11th to 14th
Place: Suzhou



Contact: www.sipcd.cn

International Asian Monsoon Year Workshop

Date: September 12th

Place: Nanjing

Contact: Institute of Atmospheric Physics, CAS

2012 China Unconventional Gas Summit & Expo

Date: September 12th to 15th

Place: Zhengzhou

Contact: <http://www.giccgroup.com/ug2012>

The 14th International Biochar Congress

Date: September 16th to 19th

Place: Beijing

Contact: <http://www.ibi2012.org/>

3rd Asian-Pacific Conference on Ionic Liquids and Green Processes

Date: September 17th

Place: Beijing

Contact: Institute of Process Engineering, CAS

Advanced Video and Signal-Based Surveillance 2012

Date: September 18th

Place: Beijing

Contact: Institute of Automation, CAS

Water Quality 2012

Date: September 19th to 21st

Place: Hangzhou

Contact: <http://www.accwa.net>

2012 China International Mechanical Manufacturing Technology & Equipment Exhibition

Date: September 20th

Place: Jinan

Contact: Chinese Mechanical Engineering Society

2012 China International Bearing Industrial Exhibition

Date: September 20th

Place: Shanghai

Contact: China Bearing Industry Association

2012 International Conference on Computational and Theoretical Nanoscience

Date: September 21st to 23rd

Place: Beijing

Contact: <http://www.iamset.org/icctn>

2012 Workshop on Super Intense Laser-Atom Physics

Date: September 23rd to 26th

Place: Suzhou

Contact: Shanghai Institute of Optics and Fine Mechanics, CAS

5th China International Exhibition on Road Traffic Safety

Date: September

Place: Beijing

Contact: China Road Traffic Safety Association

International Seminar on Emergency Response Pharmacy Support

Date: September 27th to 28th

Place: Chongqing

Contact: China Pharmacy Society

IEEE 6th International Conference on Information and Automation for Sustainability

Date: September 27th to 29th

Place: Beijing

Contact: <http://www.iciafs.org/>