Science, Technology, Education and Health News from China

Number 104 – February 2013

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Introduction
This month’s newsletter starts with a review of the recent government power handover in China and its implications on science, education and innovation policy. In science and technology, the world’s biggest player Suntech went bankrupt; China plans to put into use its fourth space launch center in two years. In education, the prestigious Peking University welcomes a new President. Top Chinese university might eliminate English as part of the entrance examination. MOOC in China is on the rise. In health, the newly created National Commission of Health and Family Planning is headed by Mrs. LI Bin. Massive amount of dead pigs were found in the river of Shanghai.

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1 Please click on the blue texts to activate the hyperlinks to either email addresses or related websites.
Science and Education in China with New Leadership: Changes and Continuities?

The world looked at China in this March as the National People's Congress' session completes the once-in-a-decade transition of leadership. In the science, technology, education and health sector, Dr. WAN Gang and Mr. YUAN Guiren continued to serve as Minister of Science and Technology and Minister of Education. Dr. CHEN Zhu, the former Minister of Health was appointed to the Vice President of the Chinese People's Political Consultative Conference (CPPCC), and Ms. LI Bin took over the public health sector to be in charge of the newly created National Commission of Public Health and Family Planning after the merger between the Ministry of Health and the National Commission of Family Planning.

Mrs. LIU Yandong, State Councillor in charge of science, education and culture since 2008, has been promoted as one of the four vice premiers in the new cabinet. She is also the only female member in the 25-member Politburo of the Communist Party of China. Her key responsibilities continue to be science, technology and education.

The elevation of Mrs. LIU and the continuities in the Ministry of Science and Technology and the Ministry of Education imply that more continuation is to be expected in research and education policies, which are outlined in the Medium and Long Term Science and Technology Development Plan 2006-2015, and the Medium and Long Term Education Development Plan 2010-2020.

For the new government, the importance of improving the quality of education, research and innovation is more pressing than ever. Regional disparities in all levels of education are to be bridged, for which more aggressive capital and human resources investment is foreseen in Western China to catch up with its eastern counterparts. Vocational education still requires more qualified faculty, closer link with industry and a better mix of students to meet the increasing demands of China’s private industry for skilled labor. The whole education system is in need of an overall mentality shift and institutional reform in order to loosen the pressures on Chinese students and encourage creative and critical thinking. One key challenge in the institutional reform is the national college entrance examination, a 2-day exam that each year puts more than 10 million Chinese students to compete with each other for a slot in the universities.

In science and technology, advancement of Science and technology for the benefit of economic growth is particularly crucial for China as 1/10 of the population still has to be lifted out of poverty based on Chinese standards (annual income less than RMB 2,300, or USD 400), but cheap labour, sufficient natural resources and factors which used to contribute greatly to the economic growth momentum of China are no longer sustainable. The old concept of economic growth at the cost of environment is confronted with growing public resentment. Therefore a growing need for a more innovation-based economy has triggered a national emphasis on the “strategic industries” underlined by the State Council in 2011, prioritizing the knowledge-intensive sectors including energy-saving and environmental protection, next generation information technology, bio-technology, advanced equipment manufacturing, new energy, new materials and new-energy vehicles. These sectors will continue to be priorities in the new government.

That being said, “hard science” is also at the center of the concern. Increasing investment and more emphasize on basic science are expected, and large-scale scientific facilities and science projects will continue to receive concrete support. The on-going ambitious Space Program, Pole Expedition Program and Deep-sea Exploration Program of China are all clear indications on the commitment of the government.
News

1. **Peking University’s New President WANG Enge Faces Huge Challenges**
   (SCMP, 02-04-2013)

Peking University's new president Wang Enge remained largely unknown outside of a small academic circle until his appointment was announced in the last week of March.

Wang succeeds the controversial and flamboyant former president Zhou Qifeng, who became president in November 2008 but had been dogged by a number of controversies. News of Zhou's departure was initially welcomed on social media sites, but attention has since shifted to the new president - a physicist known for being pragmatic and down to earth.

Wang now faces the challenge of restoring strained ties between the university and the public, contending with campus bureaucracy and leading the university, commonly referred to as Beida, in its bid to achieve global recognition as a top institute of higher learning. In his inauguration speech, Wang said the university should have a dream - in the same way an individual or a country does. "To transform Beida into a world-class university is the dream of all people at the university," he said. "But a school can prosper only through hard work, while empty talk will hinder our development."

Wang, a native of Liaoning, spent much of his career as a physics researcher at the Chinese Academy of Sciences’ Institute of Physics and at Peking University before being appointed the university's vice-president in May 2011. Before he began working at the Chinese Academy of Sciences (CAS) in 1995, Wang spent three years as a post-doctoral student and later as a research staff member at the University of Houston in the United States. With his research focus being surface physics, Wang has authored and co-authored more than 200 articles in peer-reviewed journals.

Wang Xing, a third-year student at Peking University, said Wang was rarely seen in public, though his name appeared on posters for academic symposium. She said the new president must work to repair the school's image, largely through better communication with the public.

However, Xiong Bingqi, deputy director of the Beijing-based 21st Century Education Research Institute, said that public criticism targeting the former president had much to do with the fact that presidents of mainland universities were not openly selected, but rather appointed by the government. And the president of Peking University holds the rank of a vice-minister within the mainland government bureaucracy.

Xiong said university presidents may become torn between their roles as government officials and educators, and this exposed them to increased public scrutiny, particularly at prestigious universities such as Beida.


2. **English Dropped from Top Chinese University Exams**
   (Xinhua, 17-03-2013)

China's top universities began their annual independent recruitment exams during March 16 and 17, with English no longer included among the exams’ compulsory subjects.

In most of these universities, those who have applied for science and engineering majors will only be required to take mathematics and physics exams, while art students will be required to take Chinese and math exams.
Yu Han, an enrollment officer at Tsinghua University, said the subject was eliminated in order to reduce students' workload and attract talented students who excel in the targeted subjects.

Independent college entrance exams are held three months before the national exams, a process that allows universities to recruit more talented students. This year, 27 Chinese universities are joining three leagues represented by Tsinghua University, Peking University and Beijing Institute of Technology (BIT), with all three leagues holding recruitment exams simultaneously.

The Peking University league consists of 11 universities, including Hong Kong University and Beijing Normal University.

The Tsinghua league is composed of seven universities, including the University of Science and Technology of China, Shanghai Jiao Tong University, Renmin University and Zhejiang University.

The BIT league is made up of nine schools, including the Harbin Institute of Technology and Tongji University.

(http://www.chinadaily.com.cn/china/2013-03/17/content_16314171.htm)

3. With Dead Pigs in River, Troubling Questions on Food Safety

(Portland Press Herald, 13-03-2013)

Pork buns and tap water may be off the menu in Shanghai, China’s biggest city with more than 23 million people, after thousands of dead pigs were found floating in the Huangpu River, which flows through the city, and in upstream tributaries. About 6,000 animals have been fished out in an operation that began on March 8th, according to the Shanghai authorities, with more still surfacing, though at a slower pace. (By March 10th, about 12,600 pigs had been fished out of rivers in Shanghai and upstream in Jiaxing, the South China Morning Post reported.)

The questions around the pig die-off — what caused it, why the animals were thrown into the river and by whom — are deeply disturbing Shanghai residents as well as others in China, and the Ministry of Agriculture has announced an investigation. City water authorities say the drinking water sourced in the Huangpu is safe, though one water sample showed traces of porcine circovirus, Xinhua, the state news agency reported, adding it can spread among pigs but not humans.

There’s the question of why the pigs have ended up in the river. A report by the Oriental Morning Post, from Jiaxing city upstream in Zhejiang province, suggested there are apparently high death rates in the pig industry there: between 60 and 100 pigs die daily in Zhulin village alone, the dfdaily.com reported, in an article carried by the People’s Daily Web site. It wasn’t clear why.

The village, in Xinfeng county, has pens for dead pigs but they’re full, the report said, quoting pig farmers and disposers in the village. Suspicions are growing that a recent crackdown by the police on the sale of pigs that have died from disease but are being illegally sold into the human food chain may be contributing to the problem, as people dump the animals in the river instead.

“In the second half of last year, the Jiaxing police investigated 12 cases across provinces of illegal buying, selling and slaughtering of ‘disease dead pigs,’ worth over a million RMB,” the report said.

Pork, known here as “big meat,” is a favorite food in China, but pig farmers say they struggle to make enough money from the business. Farmers have in the past sold dead, diseased pigs “to make a little money,” the report quoted a farmer identified as Hong Wei as saying.

A 100-kilogram, or about 220-pound, pig sells for only about RMB 600, according to the article, while feed costs alone total at least RMB 150, farmers said. Local pig dealers have proposed that local authorities pay a small fee to farmers to recover dead pigs and help curb the illegal trade, suggesting RMB 10, the report said.

4. **Sunset for Suntech: The Troubling Bankruptcy in Troubled Business**

(Economist, 30-03-2013)

Will the bankruptcy of Suntech, a big Chinese solar-panel maker, spark a round of consolidation in the global solar industry? The early signs are dim. Under a charming and tech-savvy founder, Shi Zhengrong, Suntech was a pioneer. It was the first Chinese solar firm to go public, in 2005. Supported by official credit and subsidies, it briefly became the world’s largest solar-panel manufacturer by volume.

Now Suntech has become a dirty word among sun-worshippers. On March 15th it missed a payment on $541m-worth of convertible bonds. On March 18th local banks holding the firm’s debt lost patience and sued it. Shortly afterwards a local court declared it bankrupt and ordered debt restructuring to begin.

Suntech stumbled because it ran ahead of the pack. Jenny Chase of *Bloomberg New Energy Finance* (BNEF), a research firm, argues that solar technology is advancing so quickly that it creates a “last-mover advantage”. She calculates that new photovoltaic (PV) manufacturing plants become obsolete within five years.

Another advantage for upstarts is that they can exploit the collapse in global silicon prices, the most important raw material for solar panels. Older firms like Suntech had no choice but to pay $400 or more per kg in 2008. Many signed long-term fixed-price contracts. When prices recently touched just $16 per kg, they were as sore as a sunburnt neck.

Solar kit keeps getting cheaper and more efficient. So Suntech’s younger Chinese rivals, such as Jinko and Hareon, report much lower costs. They also appear to be less heavily indebted. In theory, as firms with unprofitable and outdated assets go under, leaner ones should flourish. But such consolidation has yet to happen.

The global solar-panel glut is now vast. Manufacturers have at least 60GW of crystalline-silicon cell and module capacity, but demand this year is expected to be just 37GW. BNEF forecasts that, even with robust demand in China and Japan, global PV demand will reach only 52GW in 2015.

On the heels of the Suntech bankruptcy, Robert Bosch, a German auto-parts giant, announced that it would pull out of the solar-manufacturing business. Despite having sunk over $2.5 billion into this sector, the firm said it saw no path to profits. Outside China, more bankruptcies and exits are likely.

A shake-out in China is also overdue. Debt-to-equity ratios at Chinese solar firms are nearly 80%, in contrast with typical levels closer to 50% at global and Taiwanese rivals. Nearly all of the hundreds of Chinese solar firms are losing money. Alas, no clean-up is on the horizon, if recent news is a guide.

Just before Suntech declared bankruptcy, Zhou Weiping, a former manager at Guolian Development Group, a state-owned enterprise, was appointed as its president. That suggests that the local government of Wuxi, where Suntech is based, will not allow it to go under. China’s reluctance to let the walking dead expire could hurt the solar industry for years. Sunlight may kill vampires, but not zombies.


5. **Li Bin Brings Rich Experience to Health and Family Planning Commission**

(SCMP, 17-03-2013)

Minister in charge of the newly established Health and Family Planning Commission Li Bin said she was well aware of the importance of her job, but shed little light on how she was going to address the two tricky issues of health-care reform and the controversial birth control policies.

With her rich background in both health and national family planning affairs, it came as little surprise that the former Anhui governor was selected as head of a newly created commission overseeing both sectors.
The appointment makes Li, 58, the fourth female minister of public health, following Li Dequan, Liu Xiangping and Wu Yi.

She worked in the National Population and Family Planning Commission for more than four years, first as a deputy and then as director, until she was named governor of Anhui in 2011. Prior to that, Li Bin was in charge of health, social security and labour in her six years as deputy governor of Jilin, from 2001 to 2007.

Ahead of Li's appointment, reporters at the Great Hall of the People asked former health minister Dr Chen Zhu nearly two weeks ago to comment on rumours that Li would be named to the post. "The central government has a sharp eye for picking the most able person," he said.

Chen, who was elected as chairman of the Chinese Peasant's and Worker's Democratic Party in December, was elected on Thursday by the National People's Congress as its vice-chairman, filling a vacancy left by the party's former chairman, Sang Guowei.

About a year ago, Chen spoke highly of Li Bin, offering praise for her health-care initiatives in Anhui, as well as for the important role the province has been playing in national medical reform efforts. Anhui is the only province that has two cities out of 17 in the whole country to pilot difficult public hospital reforms. Anhui has also gained attention for its reform of the essential-drugs system, as well as for increasing health care coverage.

Li, from Fushun in Liaoning, spent more than three decades of her political career in Jilin. After starting out as a teacher at the Changchun Institute of Education in 1974, Li went on to become a junior party official in charge of propaganda in Changchun.

She first served as a provincial-level official in 1994, as deputy director of Jilin's Planning Commission. Li was named an assistant governor of Jilin six years later and promoted to deputy governor in 2001.

With her doctoral degree in economics, Li asked the province's statistics department to take measures to prevent the filing of fake figures or reports. Her pragmatic approach to politics also saw her make several inspection visits to various welfare projects, such as low-income housing developments, in rural areas.

After being transferred to the National Population and Family Planning Commission in 2007, Li went to several provinces, including Xinjiang and Guangdong, to conduct research, and she spoke openly about problems such as the gender imbalance favouring males, and the rapidly ageing society.


6. **Online Learning Trend to Enliven Chinese Education**

(Xinhua, 02-04-2013)

"Massive online open courses" (MOOC), designed for large-scale interaction and open access at no cost, have become a rising power in China's education landscape. While MOOC has been labelled a "tsunami" of education by the president of California's Stanford University, educators in China have credited it as the most important invention for their field since the Internet.

One of the biggest providers of MOOC alongside other American operations like Udacity and edX is Coursera. Since launching in April 2012, Coursera has picked up more than three million users, and the largest MOOC forum in China has more than 12,000 members. When Andrew Ng, the Chinese-American academic and co-founder of Coursera, came to Beijing to deliver a lecture at Tsinghua University, interest was further piqued as to the potential for his creation.

While Stanford is among a number of partner universities with which Coursera promotes its services in the United States, Ng is currently seeking similar relationships in China. In an interview with Xinhua, he says his hopes are high as the country's educational institutions and companies are hungry for ties with experienced U.S. education platforms.
"Coursera wants to embody the Confucius value of making no social distinctions in teaching; providing education for all people without discrimination. Education for everyone is our goal," explains Ng, whose positions at Stanford include acting as associate professor with its Department of Computer Science.

Language has been the main obstacle for MOOC's spread in China, while it is much more popular in India and other English-speaking countries. There is general agreement that the best way for MOOC to spread in China is to shoot Chinese-language videos in the country.

As an education pioneer of Chinese origin, Ng wants to express his own "loyalty" to China and he believes the value of Chinese courses needs to be shared all over the world. Besides, some courses are better taught with a local flavor, in his view.

Ng's talks with universities have resulted in some early success in this regard. In August, Coursera will launch a Chinese-language platform linked to National Taiwan University's history classes, according to Ng, and similar services for a Chinese opera course run by the Chinese University of Hong Kong are likely to begin soon.

The future implications of MOOC's growth are being hotly discussed as it catches increasing attention.

Some believe that MOOC will make many universities disappear and leave only the best to prosper, while others forecast that universities will retain a place as offline communities because real interactions cannot be replaced by virtual ones, says Zhang Zheng, principle researcher with Microsoft Research Asia and a frequent student of Coursera.

[...]

(http://news.xinhuanet.com/english/indepth/2013-04/02/c_132279991.htm)

7. **China's Fourth Space Launch Center to be Used in Two Years**

(Xinhua, 03-03-2013)

China's fourth launch center, located in tropical island province of Hainan, will be ready for space launch in two years, said a member of China's top political advisory body.

The launch center, which has been under construction since 2009, will be able to launch space station capsules and cargo ships, Zhou Jianping, designer-in-chief of China's manned space program, told Xinhua on Saturday.

The carrier rockets to be launched in the Hainan center include Long March-7 and Long March-5, said Zhou, a member of the National Committee of Chinese People's Political Consultative Conference (CPPCC).

Construction of the Hainan Space Launch Center, the lowest latitude one in China, started in September 2009 in Wenchang City, on the northeast coast of the tropical island province. The center will be mainly used for launching synchronous satellites, heavy satellites, large space stations, and deep space probe satellites. It is designed to handle up to 10-12 rocket launches a year.

China currently has three space launch bases, namely, the Jiuquan Satellite Launch Center in the desert of northwest China's Gansu Province, the nation's only manned spacecraft launch center; the Taiyuan Satellite Launch Center in north China's Shanxi Province, capable of launching satellites into both medium and low orbits; and the Xichang Satellite Launch Center, mainly to launch powerful-thrust rockets and geostationary satellites in southwest China's Sichuan Province. The three launch sites have carried out over 100 space launches, sending over 100 satellites into space.

However, the three launch centers are all landlocked in western or northern plateau and mountainous regions, lack commercial development and are inconvenient for transportation.
Long Lehao, a carrier rocket expert with the Chinese Academy of Engineering, previously said that rockets to be launched from Wenchang would consume less fuel to get into orbit, because of its better location.

"A satellite launched from Wenchang will be able to extend its service life by three years as a result of the fuel saved from the shorter manoeuvre from the transit orbit to the geosynchronous orbit," Long said. (http://news.xinhuanet.com/english/sci/2013-03/03/c_132204156.htm)

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<th>Events (April – May 2013)</th>
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| **Beijing International Technology Transfer Congress**  
Date: April 25th to 27th  
Place: Beijing  
Contact: http://www.bjitttc.org/ |
| **The 16th China Beijing International Hi-tech Expo**  
Date: May 21st to 26th  
Place: Beijing  
Contact: http://www.chitec.cn |
| **Shanghai International Technology Fair**  
Date: May 8th to 11th  
Place: Shanghai  
Contact: http://www.csitf.cn/ |
| **2013 Beijing Science and Technology Week**  
Date: May 18th to 24th  
Place: Beijing  
Contact: http://www.bast.net.cn |
| **2013 China Bio Partnering Forum**  
Date: May 29th to 30th  
Place: Beijing  
Contact: http://ChinaBioLLC.com |

Swiss-related S&T, Education and Health Events and Announcements

| Presentation on Life Science Clusters in Europe  
Date: April 18th  
Place: Shanghai  
Contact: Swissnex China |
| **Celebration of 5th Anniversary of Basel-Shanghai City Partnership**  
Date: May 14th  
Contact: Swissnex China |
| **Visit of HEIG-VD to China**  
Date: April 15-24  
Place: Shanghai and Beijing  
Contact: Swissnex China, Embassy of Switzerland in China |
| **Swiss Week**  
Date: May 30th to June 2nd  
Place: Yadanglu, Shanghai  
Contact: Swissnex China |
| **SwissMem/Fairlink Alumni Event**  
Date: April 25th  
Place: Beijing  
Contact: Embassy of Switzerland in China |