Science, Technology and Education News from China

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Please note that the previous newsletters can be downloaded from the website of the Embassy of Switzerland in China: www.eda.admin.ch/beijing[1]. To subscribe/unsubscribe or send us your comments, please send an email with the corresponding subject to chenchen.liu@eda.admin.ch.

Introduction

January 2011 marks the first month of China's 12th Five-Year-Plan. This month's newsletter provides a preview of Beijing's science and technology development plan in 2011-2015. At the beginning of 2011, China released top 10 scientific progresses in 2010, awarded top scientists in national science and technology conference. China claimed to have achieved breakthrough in nuclear technology. Also in science, the government announces new policies to spur software, integrated circuit industries. In education, East China Normal University and New York University are to build the first Sino-U.S. co-established international university in China. In health, the Health Ministry vowed to double medical insurance premium for rural residents. This month also notes the new round of call for proposal for Sino-Swiss Science and Technology Cooperation Program.

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On behalf of the Science, Education and Health Section of the Embassy of Switzerland in China, best wishes to our readers for a happy, prosperous year of Rabbit.

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

Policies

Beijing Plans Science and Technology Landscape 2011-2015

At the eve of the release of China's *12th Five-Year-Plan for Economic and Social Development*, which will be submitted to National People's Congress NPC for approval in March, Beijing first released the city's own five-year-plan. For Beijing, the key word for the next five years would be a shift to **"innovation-based" development**. In terms of concrete development plan, the municipal government will spend the next five years building "**two belts**" while prioritizing the development of "**two cities**", as well as the surrounding supportive packages. The goal is to transform Beijing into China's innovation center.

The north belt, officially named as "**Northern Beijing R&D Service and Hi-tech Industry Cluster**" will feature technology innovation and R&D services. It plans to include existing high technology capacities in Haidian District and Changping District, including the previously independent 4 national development zones (Zhongguancun Changping Park, Zhongguancun Life Science Park, Zhongguancun National Engineering Innovation Base and Xiaotangshan Agricultural Science Model Park), 20 other local parks, and a higher education town. The cluster looks to attract more high-technology companies in the field of **software and information technology, new material, energy, green technology, bioengineering and pharmaceutical industry**.

The development of north belt will prioritize "two cities": "**Zhongguancun Science City**" and "**Future Science and Technology City**." These two R&D powerhouses are designed to significantly boost Beijing's innovation capability.

Centered on Zhongguancun area, **Zhongguancun Science City** covers some of the most important universities in Beijing (e.g. Peking University and Tsinghua University), research institutes (e.g. Chinese Academy of Sciences Zhongguancun Campus), state laboratories and 6'000 high-tech corporations (e.g. Lenovo). The "science city" concept calls for a more flexible exchange of talents, information, technology and facilities to form an open source environment, promote innovation and commercialization of technologies. Based on existing resources, Zhongguancun Science City is planed to concentrate its research on **ICT, life sciences, aviation and astronautics, new materials and renewable energy**.

The second city— "**Future Science and Technology City**" is a public project directly under the supervision of China State-owned Assets Supervision and Administration Commission of State Council SASAC and invested by 14 large state owned enterprises (SOE), including the power giant State Grid Corporation China SGCC, energy giant Shenhua Group, food giant COFCO etc. Future Science and Technology City is designed to be a **top-level incubator for overseas returnees**, especially those who returned under the government-led "Thousand Talent Program" framework and work for big SOE.

The southern belt, namely **Southern Beijing Hi-technology Manufacturing and Strategic Industries Cluster**, will integrate the booming YiZhuang Economic Development Zone, the nearby Daxing Administrative District and a new international airport to be built in the next five years. The decision to integrate Daxing District into Yizhuang was made in 2010, as the relatively less-developed Daxing District could offer abundant land and labor to support the expansion need of enterprises in Yizhuang. After the integration, the two districts will share preferential investment policies, upgrade infrastructure to better link the two districts to city center, and integrate management teams.

With more than 3700 enterprises from 30 countries located in Yizhuang Economic Development Zone, Yizhuang contributes to 1/5 of Beijing's industrial output in 2010. **IT, Bioengineering and Pharmaceutical, automobile and manufacturing** are the 4 pillar industries of Yizhuang. Additional specialized industry parks, including Bio and Pharmaceutical Industry Park, Producer Service Industry Park, New Media Industry Park and New Energy Vehicle Industry Park will also be established to foster "strategic industries" identified by Chinese State Council in 2010.

Preferential policies, talent attraction programs and service packages are also available to complement the infrastructure, in order to attract entrepreneurs, researchers and international corporations.

News

1. China's Top 10 Scientific Progress in 2010 Released

(MoST, 20-01-2011)

The Basic Research Management Center, part of Ministry of Science and Technology, *Science and Technology Review*, Bulletin of Chinese Academy of Sciences, China Science Foundation, and China Basic Sciences, jointly launched a review to select top ten basic research news events for 2010.

The top ten major scientific progresses achieved by China in 2010 are:

1. Topological insulator study made an important progress;

2. An anti-hyperparticle, or anti-hypertriton, was for the first time discovered in a Relativistic Heavy Ion Collider;

3. Scientists unveiled the molecular mechanism of arsenic trioxide and all-trans retinoic acids in treating acute promyelocytic leukemia;

4. Chinese scientists unearthed fossilized early modern humans dating back to 100'000 years ago;

5. A genome wide study unveiled the susceptibility genes for psoriasis, vitiligo, and leprosy;

6. A molecular mechanism that leads to an ideal plant of rice was revealed;

7. Magnetotelluric measurements revealed two crustal material flows in the east part of the Tibetan Plateau;

8. Chinese scientists unveiled the role played by protein lysine acetylation in regulating cellular metabolism;

9. Metamaterial based three-dimensional microwave stealth and electromagnetic black holes realized; and

10. Long-range free space quantum teleportation materialized

2. China Awards Top Scientists

(china.org, 14-11-2010)

Two Chinese scientists, material expert Shi Changxu and hematologist Wang Zhenyi, won China's top science award on January 14, 2011 for their outstanding contributions to scientific and technological innovation. The award was announced during China National Science and Technology Award Conference.

The two scientists, both from the Chinese Academy of Engineering, each received CNY 5 million (USD 757'600) and were awarded certificates presented by President Hu Jintao at the Great Hall of the People in Beijing.

China has given the annual State Top Scientific and Technological Award to elite scientists and researchers for eleven consecutive years since 2000.

Shi Changxu, 91, was honored for initiative research on superalloy and new alloy steel, which has widely been used to produce turbine blades for Chinese fighter aircraft. Wang Zhenyi, 87, was awarded for his research achievement which has greatly improved the survival chances of people with acute promyelocytic leukemia (APML).

[…]

An original anti-counterfeit device used in banknotes printing won the first prize of State Technological Invention Award.

Three scientists from Germany, one from the United States and one from France won the International Cooperation Award in Science and Technology.

Thirty projects received second prizes in State Natural Sciences Award, but none claimed the first prize.

(http://www.china.org.cn/china/2011-01/14/content_21738535.htm)

3. China Boasts Breakthrough in Nuclear Technology

(Reuters, 03-01-2011)

Chinese scientists have made a breakthrough in spent fuel reprocessing technology that could potentially solve China's uranium supply problem, Chinese state television reported on January 3.

The technology, developed and tested at the No.404 Factory of China National Nuclear Corp in the Gobi desert in remote Gansu province, enables the re-use of irradiated fuel and is able to boost the usage rate of uranium materials at nuclear plants by 60 folds.

"With the new technology, China's existing detected uranium resources can be used for 3'000 years," Chinese Central Television reported.

China, as well as France, the United Kingdom and Russia, actively supports reprocessing as a means for the management of highly radioactive spent fuel and as a source of fissile material for future nuclear fuel supply.

But independent scientists argued that commercial application of nuclear fuel reprocessing has always been hindered by cost, technology, proliferation risk and safety challenges.

China has 171'400 tons of proven uranium resources spread mainly in eight provinces -- Jiangxi, Guangdong, Hunan, Xinjiang, Inner Mongolia, Shaanxi, Liaoning and Yunnan.

China is planning a massive push into nuclear power in an effort to wean itself off coal, the dirtiest fossil fuel. It now has 12 working reactors with 10.15 gigawatt of total generating capacity.

China has set an official target of 40 gigawatts (GW) of installed nuclear generating capacity by 2020, but the government indicated it could double the goal to about 80 GW as faster expansion was one of the more feasible solutions for achieving emissions reduction goals.

As such, China will need to source more than 60 percent of the uranium needed for its nuclear power plants from overseas by 2020, even if the country moves forward with a modest nuclear expansion plan, Chinese researchers say.

(http://www.reuters.com/article/idUSTRE7020DB20110103)

4. China Plans to Double Medical Insurance Premium for Rural Residents

(Xinhua News, 06-01-2011)

China plans to double the annual medical insurance premium for rural residents in the coming five years, giving rural residents a bigger reimbursement on their medical bills. The annual premium per person will be raised from the current CNY 155 (USD 23.4) to CNY 300 (USD 45), said Minister of Health Chen Zhu.

Chen said that more than 90 percent of the rural population had joined the New Rural Cooperative Medical Care System (NCMS) in 2010, a medical insurance scheme for villagers. The government currently pays CNY 126 yuan out of the CNY 155 premium, but it did not say whether it intends to pay more in the future.

Last year, China increased compensation for rural children suffering from critical illnesses -- with the insurance scheme now covering more than 70 percent of the costs in treating rural children with leukemia and congenital heart disease.

The rural cooperative medical care system was initiated in 2003 as a pilot program to help farmers recover some of their medical costs when ill.

Expanding the cooperative medical care system is one step in China's health care reform strategy to introduce cheaper medical services for all.

5. China Announces Policies to Spur Software, Integrated Circuit Industries

(Xinhua, 12-01-2011)

China's State Council, the Cabinet, announced a series of measures to **boost the development of the software and integrated circuit industries**.

The government would earmark capital from the central budget to fund technological improvements and the upgrading of projects in qualified integrated circuit enterprises, according to a statement issued at the end of a State Council meeting, which was chaired by Premier Wen Jiabao.

The fast expansion of the software and integrated circuit industries over the past few years has helped China's progress in information technology, and promoted national economic and social development, the statement said.

More support would be given to encouraging research and development in the software and integrated circuit sectors, and promoting the industrialization and application of self-developed technologies, it said.

It also noted that the government would attach great importance to fostering domestic personnel, importing foreign talent, and protecting intellectual property rights in both sectors.

Tax concessions for the two industries, such as preferential value-added tax rates for software products, and favorable corporate income tax and business tax rates for qualified companies would continue, the statement said.

Participants at the meeting also agreed to ensure that, by the end of 2011, the country's employment injury insurance scheme cover all old and injured workers at state-owned enterprises (SOEs) and collective enterprises.

6. Shanghai-New York University to Start Recruit Students in 2013

(China Daily, 20-01-2011)

China's Ministry of Education has approved a plan by the United States-based New York University NYU to open a separate, full degree-granting campus in this eastern municipality in the coming years.

Yu Lizhong, president of East China Normal University ECNU, which is NYU's partner in establishing the NYU Shanghai campus, made the announcement at the ongoing municipal people's congress meeting.

ECNU was founded in October 1951 and is a key institution of higher learning directly under the Ministry of Education.

The NYU Shanghai campus will be China's first international university co-established by higher-learning institutes from the two countries, media reports said.

The NYU Shanghai campus will be located in the Pudong New Area's Lujiazui financial and trade zone. It will not only cultivate international talent but also boost international cooperation in finance, science and technology, Yu said.

And the new campus is expected to open as early as fall 2013. More than 3’000 undergraduate and graduate students from across the world will be admitted every academic year. Chinese students will comprise the majority, Shanghai media quoted Yu as saying.

"Detailed information and the tuition fees for foreign and Chinese students will be announced in March," a university official surnamed Jiang told China Daily.

The NYU Shanghai campus will be a world-class university. It will offer scholarships to excellent students, with preference given to those from underprivileged families, Yu said.

Undergraduate students will spend at least one semester overseas to help them develop global outlooks.

The new campus will have NYU instructors and will also recruit lecturers from around the world, media reported. The city has spared no effort in recent years to become an international education exchange center.

The UK-based University of Nottingham is also planning to open a Shanghai campus. The project is still in discussions, the city's education authorities said.

In addition, construction will begin within five years on the Shanghai Zizhu International Education Zone. Officials said negotiations to attract internationally prestigious colleges and universities, such as Ivy League schools, to set up campuses in the zone are progressing smoothly.

7. New SSSTC Call for Proposals

(SwissnexChina, 24-01-2011)

The **Sino Swiss Science and Technology Cooperation Program SSSTC** is launching its 7th call for proposal, for joint research projects in the area of **Renewable Energy and Cleantech, Material Science and Nano Technology**, in collaboration with the Chinese Academy of Science which is allocating equivalent funding to its researchers and partners of Swiss Scientists.

Faculties and researchers at Chinese universities can also join the program by looking for financial support from Chinese central and local government.

Details of the call can be found at the swissnex website: http://www.swissnexchina.org/ as well as at SSSTC portal at ETH Zurich:http://www.global.ethz.ch/stc/china

Events (January 2011– February 2011)

February 2011

2011 3rd International Conference on Communication Software and Networks
Date: February 19th to 21st
Place: Yibin, Sichuan
Contact: http://www.iccsn.org

2011 Int. Conference on Manufacturing and Industrial Engineering
Date: February 22nd to 24th
Place: Haikou, Hainan,
Contact: http://www.icmie.org

Asia-Pacific Conference on Qualitative Research in Web 2.0
Date: February 22nd to 23rd
Place: Macau
Contact: Merlien Institute

2011 International Solar energy & PV Projects (Shanghai) Exhibition and Solar PC Conference
Date: February 22nd
Place: Shanghai
Contact: Shanghai S&T Development and Exchange Center

Chinese New Year's Gathering
Date: February 24th
Place: Shanghai
Contact: Swissnex China

China Bio-Agriculture Industry Summit 2011
Date: February 24th to 25th
Place: Shanghai
Contact: IGVision International Corporation

ZHAW Cocktail Reception
Date: February 25th
Place: Shanghai
Contact: Swissnex China

Bio/Pharmaceutical Cold Chain China
Date: February 28th to March 1st
Place: tbc
Contact:
http://www.pharmacoldchainchina.com

March 2011

Dental South China Expo 2011
Date: March 2nd
Place: Guangzhou, Guangdong
Contact: Guangdong S&T Exchange Center

Exhibition La Suisse Plurielle
Date: March 9th to 22nd
Place: China University of Political Sciences and Law CUPL, Beijing
Contact: Embassy of Switzerland in China

Fète de la Francophonie
Date: March 9th-22nd
Place: Wuhan, Nanjing, Hong Kong, Shanghai, Guangzhou, Chongqing, Chengdu, Beijing
Contact: Embassy of Switzerland in China

China Plug-in Electric Vehicle Forum 2011
Date: March 10th to 11th
Place: Shanghai
Contact: http://www.chinaevforum.com

China International Conference on Solid-State and Integrated Circuit (ICSIC 2011)
Date: March 11th to 13th
Place: Shanghai
Contact: http://www.icsic.org/

2011 International Conference on Systems Engineering and Modelling (ICSEM 2011)
Date: March 11th to 13th
Place: Shanghai
Contact: http://www.icsem.org/

Workshop Future Cities/Cleantech (tbc)
Date: March 15th
Place: Shanghai
Contact: Swissnex China

2011 International Conference on Applied Social Science
Date: March 19th
Place: Changsha, Hunan
Contact: http://www.ieee-peits.com/icass/index.htm

Exhibition From Pyramids to Spacecraft
Date: March 20th to 30th
Place: Beihang University BUAA, Beijing
Contact: Embassy of Switzerland in China

China International Machine Vision Exhibition 2011
Date: March 20th
Place: Shanghai
Contact: Chinese Mechanical Engineering Society

Offshore Wind Power Development 2011
Date: March 22nd
Place: Shanghai
Contact:
http://www.offshorewindpowerasia.com

24th China (Zhejiang) International Medical Scientific Education Equipment, Supplies and Technology Exhibition
Date: March 24th
Place: Hangzhou, Zhejiang
Contact: Zhejiang Provincial S&T Department

2011 International Conference on Future Environment and Energy (ICFEE 2011)
Date: March 25th to 27th
Place: Sanya, Hainan
Contact: http://www.icfee.org/

The International Conference on Management and Sustainable Development
Date: March 25th to 28th
Place: Wuhan, Hubei
Contact: Wuhan University

Asia-Pacific Power and Energy Engineering Conference
Date: March 25th to 28th
Place: Wuhan, Hubei
Contact: http://www.appeecconf.org/2011/

2011 International Workshop on Computer Science for Environmental Engineering and Ecoinformatics
Date: March 26th
Place: Harbin, Heilongjiang
Contact: http://www.iasht.org/cseee/

International Conference on Information Science and Technology
Date: March 26th to 28th
Place: Nanjing, Jiangsu
Contact: http://icist.nuist.edu.cn

China Content Broadcasting Network 2011
Date: March
Place: Beijing
Contact: China Academy of Broadcasting Society

China Fashion Week 2011
Date: March
Place: Beijing
Contact: China Fashion Association