



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/beijing¹. To subscribe/unsubscribe or send us your comments, please send an email with the corresponding subject to chenchen.liu@eda.admin.ch.

Introduction

The first monthly editorial in the year of the rabbit provides some insights to the Ministry of Science and Technology's annual meeting, where priorities for 2011 were set. Also in this month's edition of the Newsletter, China's 3 top university alliances held their joint entrance exams; Ministry of Education released a plan to train "top-notch students" in basic research fields; Chinese Academy of Sciences released its 8 strategies for the next five years; Chinese Academy of Engineering released a report on China's Energy Strategy. *Nature* reports on a recent case in China where the Science Ministry revoked a national science award on the ground of academic fraud. Health Minister promised lower costs on healthcare services. We wish you a nice reading and appreciate your comments and questions!

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



Policies

Ministry of Science and Technology Sets Priorities for 2011

The Ministry of Science and Technology MoST held its annual Science and Technology Conference in Beijing on February 18-19, where the goals and priorities for central governments and local provinces are set for 2011.

MoST will continue to work under the general guideline of the **12th Five-Year-Plan**, which will be complemented by the previous released *National Outline for Medium and Long Term Science and Technology Development, for Education Development, and for Talent Development*. In the first year of the 12th Five-Year-Plan period (2011-2015), the key words for MoST include “**indigenous innovation**”, “**reform**”, “**opening up**” and “**talents**”.

Indigenous innovation “with Chinese characteristics” continues to be the hottest word of the year. “Nation-wide priority system” again applies to indigenous innovation, as nation-wide science and technology resources should be integrated, coordinated and then invested in priority areas. Such areas are reflected in major national science and technology programs, i.e. “973” programs, “863” programs, and national major science and technology programs. Among the three elements of indigenous innovation (primitive innovative capability, integrated innovative capability and re-innovative abilities for introduction, assimilation and digestion of technology), the latter two elements are supposed to be “significantly enhanced” while the improvement of primitive innovative capability should “be given an effort.”

Reform is considered a driving force to spur innovation. **Funding methods and management of government-led science projects and fundings** are top on the reform agenda. MoST is open to offer preferential policy packages for experimental “innovation parks”, “talent zones” and “regional innovation systems.” It is also ready to work with other actors in Chinese science field to work on reforms on science project and funding management-related issues. **Third-party independent evaluation system and academic ethic record system** are to be perfected to regulate academic fraud.

The goal of “Opening-up” is to position China in a more influential position in global science and technology field. The **priorities** of China’s international cooperation are set to be in **climate change, energy security, environmental protection, food security, and prevention & control of major diseases**. MoST “encourages international academic organizations and multinational corporations to establish their collaborative innovation platform in China, encourages Chinese corporations to open overseas R&D centers, and encourages international public-private partnerships.” MoST also plans to gradually open up Chinese science and technology programs for international players, but no details were mentioned. Active involvement in the **drafting and decision-making on major international standards** is also one of the new tasks for MoST.

Lack of talents, particularly “**leaders of the domain**” level of talents, is perceived as one of the major challenges in science and technology development. In response, MoST plans to foster more young innovative talents at home, and encourage talents from abroad to come back to China. Incentive programs such as “Thousand Talent Program” will continue to play an important role. Creating a special program to train more talents experienced in **facilitating public-private partnership** is also a new task for MoST.



News

1. China's Top Universities Start Joint Entrance Exams

(Xinhua, 21-02-2011)

Chinese students wanting to get into some of China's most prestigious universities began sitting independent college entrance exams last weekend, three months before the national one.

February 19 and 20 respectively saw two joint independent exams by two leagues represented by Tsinghai University and Peking University.

On February 26, another alliance of nine universities composed of Shanghai-based Tingyi University and institutes of technology in Beijing, Harbin, Dalian, Guangzhou and Xi'an, will also conduct its joint entrance exams.

These three groups, of a total 29 universities, will use their own criteria to help them independently select five percent of their students rather than just using the results of the national exam.

It's an important step in the reform of China's college entrance exam system, said Lao Cashing, an expert on education policy at Capital Normal University.

Students who want to gain entrance to any of the seven universities of the Tsinghai league, or any of the 13 universities of the Peking league, only needed to sit one independent exam.

"This helps lighten the students' load, otherwise they must take exams for the different universities," said Lao.

[...]

Passing the exam could result in more than one interview, giving the students more opportunities to get into their most preferred universities, he said.

But all candidates still had to take the national college entrance exam in June, which would finally determine their success. Examinees could benefit from being awarded certain marks according to their scores in the independent tests, which will add their chances of getting into their ideal university.

For decades, the national college entrance exam was the only test for Chinese high school graduates wanting to receive higher education.

The joint independent recruitment exams are regarded as latest attempts to improve China's widely-criticized college recruitment system.

http://news.xinhuanet.com/english2010/china/2011-02/21/c_13742512_2.htm

2. Top-Notch Student Training Program Piloted

(MoST, 15-02-2011)

LIU Ju, Deputy Director of Ministry of Education Department of Higher Education, announced that three government agencies, including the Ministry of Education, the CPC Central Committee Organization Department, and the Ministry of Finance, will jointly stage a **pilot project to train the top-notch students in the area of basic research**, establishing national young talents centers in the advantageous disciplines at qualified research oriented universities, setting up a training mechanism aiming at top-notch students, and making them part of basic research activities and a future academic leader in the discipline.

LIU added that the "top-notch students selection" will be first made in the areas of mathematics, physics, chemistry, biology, and computer science at ten selected universities. The Ministry of Education has established an expert panel made up of renowned scientists from both home and abroad, to review the implementation plan, select the qualified universities, and provide guidance for the implementation. The



interested students with desired potentials will be selected either through self-enrollment or through secondary screening, in line with the status quo of the universities. Experimental schools or classes will be created to train top-notch students under advanced teaching theories or models. Many schools have so far proposed to invite renowned and experienced scholars of international influence to be Chief Professor or project director for the top-notch students training programs, along with some concrete measures for allowing students to be part of research activities, and strengthening collaborations with world-class universities.

3. Report Warns of High Energy Consumption in China

(CAE, 28-02-2011)

While China tries to limit its total energy consumption to an equivalent of 4 billion tons of standard coal in 2015, the actual figure may reach 5.1 billion if left uncontrolled, according to a report *China Energy Medium and Long Term Development Strategy Research* released on February 8 by the Chinese Academy of Engineering (CAE), an important intelligent tank of the Chinese government.

"China's economy is now in a situation where its development must be restructured. The high cost of energy, unsound structure, low efficiency and energy safety are among the prominent issues in our country's energy development," read the report.

The report urged that energy be used based on "scientific supply and reasonable needs."

Statistics from the report show that the country's annual energy consumption stood at 3.25 billion tons of standard coal last year. The figure is expected to hit 5.1 billion in 2015 if the current situation remains unchanged.

The report, however, said that it was a "proper goal" for China to keep the energy consumption at 4 billion tons of standard coal in 2015.

According to the report, China's energy development is projected to experience a "historic transition" around 2030 when its consumption of coal becomes restrained, the emission of carbon dioxide reaches its peak and energy-saving capacities around the world reaches an advanced level.

The report, which is based on a major consultative project launched by the CAE in January 2008, called for the strengthening of the use of natural gas and other non-fossil energy sources and forcing local governments and companies to practice energy savings and emissions reductions by drafting more laws and regulations.

4. Eight Strategies of CAS in the Next Five Years

(CAS, 10-02-2011)

During the 12th Five-year Plan period (2011-2015), CAS will enhance the capacity building of eight major S&T systems, including sustainable energy and resources, advanced materials and smart green manufacturing, Pratt & Whitney ubiquitous information network, high-value eco-agriculture and bio-agriculture, Pratt & Whitney health security, ecological and environmental conservation, space and marine capacity building, and national/public security.

1) A sustainable energy and resource system will be built to work on three major strategic challenges: large-scale renewable energy based power generation and advanced nuclear fission energy, clean and efficient utilization of coal, and deep resources exploration and associated equipment development and application/demonstration;

2) An advanced material and smart green manufacturing system will be established to develop a range of technologies for the green preparation and development of high-quality raw materials and high performance composite materials, clean and efficient resources recycling, and ubiquitous information network based manufacturing;



- 3) A Pratt & Whitney ubiquitous information network will be deployed to work on "post-IP network" demonstration, the internet of things technology, low-cost and low-power consuming components and associated application/demonstration;
- 4) A high-value agricultural and bio-agricultural system will be built to facilitate molecular design of animals and plants, bio-manufacturing, and the development of emerging bio-industries;
- 5) A Pratt & Whitney health care system will be created to work on four major strategic issues: early diagnosis of major chronic diseases and associated intervention, brain and cognitive sciences and mental health, stem cell and regenerative medicine, and low-cost Pratt & Whitney health technology;
- 6) An ecological and environmental conservation and development system will be established to address a range of issues, including China's carbon cycle and adaptation to climate change impacts, regional environment modeling and river basin environment management system, and protection/utilization of strategic biological resources and biodiversity;
- 7) A space and marine capacity building system will be established to address a range of issues, including space science, deep oceans capacity building, digital Earth system, and global and regional environment monitoring systems;
- 8) A national and public security system will be built to address strategic science and technology issues concerning space situational awareness, social computing, and parallel management.

5. China Revokes Top Science Awards

(*Nature*, 23-02-2011)

China's government has for the first time rescinded a prestigious Chinese science award after an investigation found the recipient guilty of academic misconduct.

On 1 February, China's National Office for Science and Technology Awards, part of the Ministry of Science and Technology (MOST), announced that it was withdrawing the Scientific and Technological Progress Award (SSTPA) given to Li Liansheng in 2005. Li, a former professor of mechanical engineering at the Xi'an Jiaotong University (XJTU) in the Shaanxi province in central China, had received a runner-up award for his research on the production and commercialization of scroll compressors, which are used in air conditioners. But the university fired Li in March 2010 after an inquiry found evidence of fraud in papers he published about the compressors, and false claims about the profitability of his scientific invention.

The SSTPA office has asked Li to return the prize money of CNY 100,000 (US\$15,000).

[...]

Although it is the first time the government has revoked a science award, researchers say the move does not mean that winners will necessarily be subject to closer scrutiny in future.

According to Fang Shimin, a former biochemist who runs the New Threads website that aims to expose academic fraudsters, Li's case is unique for many reasons. Fang says that it is unlikely that the grant would have been withdrawn had the 83-year-old retired XJTU professor of mechanical engineering Chen Yongjiang and five of his colleagues not pursued the matter for more than four years. The move also seems to have been prompted by Chinese Central Television's coverage of the affair on its prime-time investigative news programme Focused Interviews — Li was fired by XJTU shortly after the programme was broadcast.

[...]



6. China to Further Ease Cost of Medical Services: Minister

(Xinhua, 18-02-2011)

In the next five years, China will further expand the coverage of its basic medical insurance system and ease the cost of medical services, Health Minister Chen Zhu said on February 18.

Chen made the remarks while addressing a meeting for the reform of the health care system.

The medical expenditure that shouldered by individuals had been cut to **38.2 percent** of China's annual overall spending on medical services in 2009, down from 60 percent in 2001, thanks to increasing government funding support for the measure, said Chen.

He said the country is striving to bring down the ratio to **below 30 percent** by the end of the country's 12th five-year plan period (2011-2015).

China is steadily pushing towards the implementation of a **basic medicine system** which aims to ensure affordable access to essential drugs for patients, Chen said.

In the areas already covered by basic medicine system, the average price of basic medicine has dropped by around 30 percent, Chen added.

He said that the reform of government-run hospitals, which is key to ensure that the masses gain universal access to basic health care services, must be undertaken.

In 2011, more measures will be made to restructure the distribution of public hospitals, reform government-run traditional Chinese medical institutions and support building and developing hospitals in county-level regions, Chen said.

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 (March 2011– April 2011)

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

Fête 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.appeeconf.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

Einstein Exhibition HongKong Media Conference

Date: March 31st

Place: Hong Kong
Contact: www.swissnexchina.org

China Fashion Week 2011

Date: March
Place: Beijing
Contact: China Fashion Association

April 2011

2nd St.Gallen Symposium in Beijing

Date: April 8th
Place: Beijing
Contact: Embassy of Switzerland in China

1st International Conference on Clean Energy

Date: April 10th
Place: Dalian, Shandong
Contact: Dalian Inst. Of Chemical Physics, CAS

The 4th Shanghai International Aerospace Technology and Equipment Exhibition

Date: April 11th
Place: Shanghai
Contact: Shanghai Association for Science and Technology

The 4th International Conference on Computational Science and Optimization

Date: April 15th
Place: Kunming, Yunnan
Contact: Academy of Mathematics and Systems Sciences, CAS

The 4th International Workshop on Process Tomography

Date: April 18th
Place: Chengdu, Sichuan
Contact: Institute of Mechanics, CAS

Einstein Exhibition Opening HongKong

Date: April 18th
Place: Hong Kong
Contact: www.swissnexchina.org

2011 LOICZ Open Science Conference

Date: April 19th
Place: Yantai, Shandong
Contact: Yantai Institute of Coastal Zone Research, CAS

The 18th China International Industry Fair

Date: April 20th
Place: Chongqing
Contact: Chinese Mechanical Engineering Society

The International Symposium on Nano & Molecular Scale Devices (2011)

Date: April 25th
Place: Beijing
Contact: National Center for Nano Technology, CAS

2011 International Seminar of Earth Observation Satellite Committee Microwave Remote Sensor Calibration and Authenticity Inspection

Date: April 27
Place: Beijing
Contact: Center for Space Science and Applied Research, CAS

Third Meeting of the Asian Nuclear Physics Association

Date: April 29th
Place: Lanzhou, Gansu
Contact: Institute of Modern Physics, CAS

CIUTI Forum Beijing

Date: May 21st-22nd
Place: Beijing
Contact: <http://www.ciuti.org/>