



Science, Technology and Education News from China

Number 65 – November 2009

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 cynthia.robbiani@eda.admin.ch.

Introduction

On November 19, the Chinese Academy of Sciences (CAS) has celebrated its 60th anniversary hosting a welcoming banquet after a day of visits of the CAS Institutes in Beijing and the Science and Technology Accomplishment Exhibition specially prepared for this event. The month of November has also seen the visit of Swiss State Secretary for Education and Research Mauro Dell’Ambrogio to China. An international conference on Traditional Medicine was held in Guangzhou. China became the second country with the ability to develop a teraflop supercomputer system called the "Milky Way One" which ranked fifth in the world and first in Asia. Researchers have created a smart transgenic rat. And, last but not least, next June in the north-eastern city of Harbin, China will host the first International Humanoid Robot Olympic Games.

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



Policies

60th Anniversary of the Chinese Academy of Sciences

The year of 2009 marks the 60th anniversary of the founding of the Chinese Academy of Science (CAS). For this occasion, the CAS has organized several commemorating activities under the name of "Approaching Chinese Academy of Sciences". These commemorating activities started with the visit of CAS research institutes in Beijing, followed by the CAS Science and Technology Accomplishment Exhibition specially prepared for the 60th anniversary. A welcoming banquet closed the day attended by more than 70 foreign ambassadors, counsellors and diplomats from 35 countries. Tours to Big Science Facilities, visit of the University of Science and Technology of China and some CAS research institutes in Shanghai and Hefei are also planned for the month of December.

The CAS was born on November 1st, 1949, a month after the People's Republic of China. During 60 year, the CAS has become a research and development locomotive and has attracted many talented Chinese and foreign scientists, constructed scientific research systems, explored pioneering frontiers, outlined prospects of science and technology development and made fundamental contributions to China. CAS has also attached great importance to the academic exchange and cooperation with international science and technology communities. Indeed, the CAS has focused its strategic research on international cooperation to enhance scientific innovation as Lu Yongxiang, president of the CAS said: "*[...] The CAS benefited greatly from deep and extensive international cooperation. The Chinese Academy of Science will always emphasize and strengthen science and technology cooperation with the rest of the world, so as to complement comparative strengths with each other for a win-win cooperation*".

According to the Annual Report of 2009, research projects have increased by 22,6% comparing to the previous year, reaching the number of 21'800 by the end of 2008. The regular staff of CAS reached 50'300 persons with a percentage of 32% of women. In terms of achievement, a total of 2665 patent licenses were granted in 2008, including 28 foreign patent licences, 21,3% more than 2007. Some majors scientific breakthroughs can be remembered. Among them, we can mentioned the development of the world's first quantum relay instrument, the construction of the Large Sky Area Multi-Object Fiber Spectroscopic Telescope (LAMOST) and the construction of the Cooling Storage Rung of the Heavy-Ion Research Accelerator Facility in Lanzhou (HIRFL-CSR). Breakthroughs were also made in the construction of key anti-radiation electronic devices and in the medical field such as the development of a new intervention treatment for type II diabetes and a new drug against Alzheimer's disease.

The CAS is composed by 113 institutions, including 92 research institutes and 3 botanical gardens, 6 universities & supporting organizations, 12 management organizations that consist of the headquarters and branches. The CAS has also invested in 21 holding enterprises. The Academy also plays a key role in the bilateral cooperation in science and technology between China and Switzerland: besides the Ministry of S&T and the Ministry of Education it is the most important Chinese counterpart in the Sino-Swiss Science and Technology Cooperation Program SSSTC (more information about the program is available under http://www.global.ethz.ch/stc/china/index_DE).

Research Projects in CAS

	Projects	Expenditure on research projects (100 million RMB)	Staff devoted to projects (person-year)	
			Regular staff	Temporary staff
Total	21836	94.59	21257	20893
Research institutes (92)	19908	91.49	20349	20698
Educational and public supporting institutions (6)	1928	3.10	908	215

(source: 2009 Annual Report)



News

1. Official Visit of Swiss State Secretary for Education and Research to China

(Embassy, 20.11.09)

State Secretary Mauro Dell'Ambrogio first paid a visit to Guangzhou, where he opened the conference "3*Efficiency in Manufacturing as well as a Sino-Swissnex Center in Precision Manufacturing (collaboration between *Scuola Universitaria Professionale della Svizzera Italiana* SUPSI and Guangdong University of Technology GDUT). After participating in the Ministerial Forum of the China Hi-Tech Fair in Shenzhen, he opened the ScienceSuisse exhibition at CAS Shanghai, met with the S&T Commission of Shanghai Municipality and participated in meetings with researchers and businessmen, organized by Swissnex Shanghai. During his stay in Beijing, Mr. Dell'Ambrogio met with his counterpart, the new Minister of Education (since November 1, 2009), Mr. Yuan Guiren and discussed various aspects of the bilateral cooperation in education. He also met with the Minister of Science & Technology, Mr. Wan Gang, the Secretary General of the China Scholarship Council, Mr. Hao Ping, the Chairman of the Chinese Association for Science & Technology, Mr. Han Qide and the Vice-President of the Chinese Academy of Social Sciences, Mr. Li Yang. This visit contributed to the consolidation of the bilateral cooperation in science and education and both countries expressed their common interest to continue to intensify this collaboration in the future.

2. China Host to the International Conference on Traditional Medicine TM

(Embassy, 1.12.09)

The three days conference was held in Guangzhou (Nov. 9-11. 2009) and brought together practitioners, politicians and researchers in the area of TM. Besides the host country China, Italy was represented with a large delegation of scientists and politicians. In his opening speech the Minister of Science and Technology, Mr. Wan Gang underlined the growing importance of TM in China and elsewhere. He also called on practitioners and researchers to contribute to the modernization and internationalization of TM. In this context, it is worth noting that the national research program led by MOST is open to international participation. The WHO also plays a key role in promoting more international collaboration and access to research. The head of the State Administration of TCM, Commissioner Wang Guoqiang called for more international collaboration in the areas of standardization and regulation of TM. China is one of the most important driving forces, with an estimated annual TCM export volume of 1.3 bio. USD.

3. China Threatened by 400 Invasive Alien Species: Expert

(CAS, 03.11.09)

China is threatened by more than 400 invasive alien species, which has caused billions of yuan of economic losses, an agricultural official said Monday. "We have discovered more than 400 harmful species alien to the country so far," said Wan Fanghao, vice director with the Research Center for Invasive Alien Species Prevention and Control of China's Ministry of Agriculture. "More than 100 of them are widely spread in the country and have caused great losses." Wan made the remarks while attending the ongoing International Congress on Biological Invasion in the southeastern Fujian Province. More than 500 experts from 50 countries and regions around the globe are attending the congress to address the threats of invasive alien species. Wan warned that the situation in China was very severe. "Due to these invasive alien species, China is now suffering a direct economic losses of at least 50 billion yuan (7.3 billion U.S. dollars) while the total economic losses are about 130 billion." Statistics showed that more than half of the 100 dangerous alien species listed by the World Conservation Union (IUCN) have been found in China. [...]

Read more about this article: http://english.cas.ac.cn/Ne/CN/200911/t20091103_46631.shtml



4. China to hold first humanoid robot Olympics

(Xinhua, 04.11.09)

Robot makers around the world can show their creations and compete in the first International Humanoid Robot Olympic Games next June in China's north-eastern city of Harbin. More than 100 universities from about 20 countries are expected to send humanoid robots to compete in 16 events in five categories, including track and field, balls, combat, dancing as well as domestic service such as cleaning and medical care, said Hong Rongbing, a professor with Harbin Institute of Technology (HIT) and an official with the China National Conference of Artificial Intelligence. Unlike other games that allow both wheeled and humanoid robots, this event accepts only android robots designed in human forms, with two legs and two arms, he said. Organizers had yet to set the specific dates of the games and they were still gathering sponsorship, Hong said. The ultimate goal of the games was to make robots intelligent and flexible enough to serve people at home, Hong said. The competitions would be held in the HIT, which boasted an Olympics innovation base expanded from a training centre for a robot football team. The HIT team had won many championships in international robot football games, he said.

Read more about this article: http://news.xinhuanet.com/english/2009-11/04/content_12385810.htm

5. China says space plans peaceful

(Reuters, 05.11.09)

China's foreign ministry insisted on Thursday that the country's intentions in space were peaceful, after comments from top air force brass preparing to celebrate a 60th anniversary worried analysts in the United States. Like the rest of the People's Liberation Army, the air force is trying to upgrade information capability, modernize its forces and develop homegrown technology. Its efforts to catch up to the United States in space are a source of pride in China, but have raised alarms in Washington after Chinese air force commander Xu Qiliang spoke of a "Great Wall of steel in the blue sky" in an interview with state news agency Xinhua this week. A space race between Asia's major and emerging powers has been building in recent years, with China, Japan and India all launching unmanned Moon missions since 2007 and harboring plans for manned lunar expeditions. "Competition between military forces is shifting to space, military force is expanding ceaselessly in the direction of space. This shift is a strong trend, this expansion is natural, this development cannot be reversed," Xu told Xinhua. [...] Xu specified that the air force's only purpose was to guard China's sovereignty and protect world peace and stability, and called for more domestically developed planes. [...]

Read more about this article: <http://www.reuters.com/article/scienceNews/idUSTRE5A41GB20091105>

6. China's "Milky Way One" Supercomputer Ranked Fifth in World

(CAS, 19.11.09)

According to the latest list of the world's 500 fastest supercomputers released Nov. 18, 2009, the "Milky Way One" ranked fifth in the world and first in Asia. "Milky Way One" is China's first teraflop supercomputer cluster system, developed by the Computer Science Department of National Defense University. A Chinese supercomputer in the top ranks indicates that China already has high-performance calculation technology and becomes the second country with the ability to develop a teraflop supercomputer system. The International Top500 organization releases world's supercomputers list twice annually based on Linpack testing. This organization aims to promote exchange and cooperation in supercomputing fields and spread its application. "Milky Way One" is China's first teraflop supercomputer system, with a peak speed of 1,206 trillion functions per second. Linpack testing reaches 563.1 trillion functions per second. Advanced supercomputing technology is a symbol of technological competitiveness especially in the information age. Among the top ten listed, there are 9 American produced supercomputers and the "Milky Way One".



Experts believe that "Milky Way One" is a way of showing the uprising status of China's advanced computer technology and it will provide solutions for critical economic and technological issues. [...]

Read more about this article: http://english.cas.ac.cn/Ne/CN/200911/t20091119_47462.shtml

7. Autodesk to support China's engineering education with software, training

(Xinhua, 17.11.09)

Autodesk, a world leader in 2D and 3D design software, is to donate its latest software worth 50 million U.S. dollars to 50 Chinese universities and secondary vocational schools, said a memorandum signed here Tuesday. The software will focus on engineering design, according to a memorandum signed between the U.S. company and China's Ministry of Education (MOE). Hao Ping, vice education minister, said engineering was vital to the building of an innovation-oriented country. Institutions of higher learning in China need to acquire the most advanced design technology, Hao added. The memorandum said the company and the ministry will conduct comprehensive cooperation to upgrade the teaching of engineering in China and foster a new generation of design talents. Autodesk president Carl Bass said the company would cooperate directly with the institutions by providing training opportunities for teachers and students and developing a platform for exchange in the field of design.

Read more about this article: http://news.xinhuanet.com/english/2009-11/17/content_12477960.htm

8. Scientist: Transgenic rat sheds light on human memory improvement

(Xinhua, 17.11.09)

Researchers have created a smart transgenic rat whose brain cells communicate a bit longer than usual, shedding light on the possibility of enhancing human memory, a scientist said Tuesday in Shanghai. Researchers improved the rat's memory by over-expressing NR2B gene in the hippocampus, a learning and memory center in the brain, said Cao Xiaohua, a professor at a brain science lab of East China Normal University (ECNU). "As human beings have a similar NR2B gene, theoretically the research is a boost for the study of improving human memory," Cao said. "The finding also brings hope to patients suffering from Alzheimer's or dementia." NR2B is a subunit of NMDA receptors that let in electrically-charged ions to the neurons to facilitate brain cell activity and communications. Over-expressing the gene can make the brain cells communicate longer by about a hundred milliseconds, Cao said. [...]

Read more about this article: http://news.xinhuanet.com/english/2009-11/17/content_12477920.htm

9. China Reports 8 Cases of Mutated H1N1

(CAS, 26.11.09)

Genetic mutation had been detected in eight A/H1N1 flu cases on the Chinese mainland, an official with the Chinese National Influenza Center said Wednesday. Shu Yuelong, director of the center, which is affiliated with the Ministry of Health, said in an interview that the mutated virus was not resistant to drugs and could be prevented by vaccines. According to Shu, the first mutated strain of the A/H1N1 flu was discovered in June this year in an imported case from Britain. Similar strain was detected three months later in Zhejiang Province. The health department of Hong Kong Special Administrative Region (HKSAR) announced one human swine influenza (HSI) virus which had the same mutation as the one detected in Norway recently. According to the World Health Organization (WHO), same mutation had been found in other countries including Brazil, Japan, Mexico, Ukraine and the United States. "Mutations were almost inevitable in influenza viruses," Shu said. Shu said the mutation detected recently was isolated and the cases were not interrelated to each other. "This kind of mutant virus has been found in patients with slight and heavy symptoms as well as those who have recovered. The virus has not widely spread so far," said Yu Hongjie,



an expert from the Chinese Center for Disease Control and Prevention. The WHO concluded that the mutation's affection to the public health had not been clear but it reminded health workers to strengthen the monitoring of the flu virus, Yu added. [...]

Read more about this article: http://english.cas.ac.cn/Ne/CN/200911/t20091126_47724.shtml

Events (December 2009)

December 2009

Approaching the Chinese Academy of Sciences Commemorating activities

Date: 6-7 December 2009

Place: Shanghai

Contact: hhgong@cashq.ac.cn

Approaching the Chinese Academy of Sciences Commemorating activities

Date: 9-11 December 2009

Place: Hefei

Contact: hhgong@cashq.ac.cn

Confucius Institutes Conference

Date: 11-13 December 2009

Place: Beijing

PhD Workshop

Date: 11-13 December 2009

Place: Beijing

Swiss university participation

Contact: Mrs. Christine Kyburz, christine.kyburz@eda.admin.ch

International Humanoid Robot Olympic Games

Date: June 2010

Place: Harbin

The 15th Asia-Pacific Software Engineering Conference

Date: 12 December 2009

Place : Beijing

Contact: Chinese Academy of Science