



Science, Technology and Education News from China

Number 57 – March 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 shu.zhou@eda.admin.ch.

Introduction

An independent evaluation of the Chinese participation in the EU Framework Programmes showed some insights into the pattern of Sino-EU science cooperation. The Chinese Academy of Sciences (CAS) is investing into China's science education with the Ministry of Education and the local provincial government. More and more Chinese scientists work at international levels, witnessed by their achievements and a database, constructed by Thomson Reuters and CAS.

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



Policies

Evaluation of Chinese participation in the EU Framework Programme

(EPEC, 30-03-2009)

Chinese participation in the EU Framework Programmes (FP) has been actively encouraged since 1999 as part of a policy to 'open up the ERA' to the wider world. As a result of innovations in FP6, the Frameworks have a wide repertoire of funding instruments that can be used in support of such participation.

China's research and innovation system has, like the economy as a whole, experienced rapid growth in recent years, especially in business' expenditure on R&D. While some excellent research is conducted in leading institutions, there is a need to upgrade overall performance and increase the proportion of more fundamental research done in order to support longer-term growth. **The trend in Chinese FP participation has been towards a bigger industrial component and towards ICT.** This moves the FPs away from the longer historical pattern of research cooperation with China at national level, which has tended to focus on science. In general FP projects tend to tackle problems that are not so close to market as to make it difficult for competing companies to be involved. Combined with its willingness to fund collaborative science, this means the FP is broadly a useful tool with which to pursue cooperation with China. However, outside the development area, the cooperation is essentially pursued with instruments that were designed with other purposes in mind.

So far, China's collaboration with the FP has mainly been funded from Europe. The Chinese Ministry of Science and Technology has a number of long-running funding programmes, some of which could in principle be opened up for foreign participation but this has not been a priority to date. The wider picture of international research cooperation with China is extremely fragmented. The FPs' potential advantages include scale and scope – most of the other cooperation are small and focus on science. There are also opportunities to build on the very long-term engagement of some of the larger Member States, which have actively been pursuing scientific collaborations with China since the late 1970s.

While there are many actors in international collaborations with China, their strategies are rarely clear. This provides an opportunity for EU policy to be more focused – though that would require modifications to the way the Framework operates in relation to China.

There are therefore opportunities for the EU, which entail overcoming two important forces. One is the significant level of investment in cooperation coming from the USA and Japan. The other is the long history of US-Chinese cooperation that means a large part of a generation of Chinese researchers went to the USA to do their PhDs and built their scientific networks there. Many have stayed in the USA; but increasing numbers are coming back to China, bringing with them US-focused networks and expectations about the USA as the only interesting research partner and place to take a PhD.

The FPs have effectively established themselves in the Chinese research funding scene but it is important to recognise the small scale of the intervention. In Europe, the FPs make up about 4% of state investment in R&D, which is widely argued to be too little to exert much leverage on the whole. Their contribution to China's research and innovation effort is so small as to disappear in the rounding. The EC contribution to Chinese participants in projects in scope to this evaluation totals about €42m – not very much over €5m per year. Nevertheless, they have succeeded in establishing or strengthening relationships with some of China's key research performing institutions and to build relationships in parts of industry, especially ICT. **The analysis shows that the Chinese participations are largely 'mainstreamed' within the FP research community, providing a good basis for future cooperation.** At this stage, many of the relationships are fragile – they have individually involved quite small amounts of effort in China – and realising the value of the achievements so far probably depends upon there being larger-scale opportunities to build on these relationships in the future. **While MOST and the EC have actively sought to disseminate information about the FPs and to encourage Chinese participation in the Framework, the level of knowledge needed in the research communities is higher than that found today.**



News

1. CAS to Build Better Science University with Ministry and Local Government

(CAS, 16-03-2009)

Chinese Academy of Sciences (CAS), the Ministry of Education (MOE) and the People's Government of Anhui Province signed an agreement to provide joint support for the construction of University of Science and Technology of China (USTC) on 11 March, 2009. The three parties agreed to continue their efforts to support USTC from 2009 to 2013 so as to build it into a first-class research-oriented university in the world. It was their third agreement since the first one in 1999, and the second in 2004. [...] CAS and Anhui Province will invest in USTC the same amount as the special subsidy from the central government in the third phase of "985 project" (a project which is aimed to construct first-class universities in the world and a number of world famous high quality researching institutes) and ensure the increase of input. At the same time, CAS, MOE and Anhui Province will support USTC in building innovation platforms, attracting high-level talents and improving its infrastructures and facilities.

2. Chinese Science Citation Database Go Live

(Reuters, 2009)

Thomson Reuters is partnering with the Chinese Academy of Sciences to host the Chinese Science Citation Database on the ISI Web of Knowledge platform. Fully integrated and searchable within ISI Web of Knowledge, this database covers approximately 1,200 top scholarly publications from China, with nearly 2 million records in total. The *Chinese Science Citation Database* will be the first non-English product available within *ISI Web of Knowledge*. *ISI Web of Knowledge* now supports Unicode – expanding search capabilities beyond English to character languages and empowering *Chinese Science Citation Database* and other *Web of Science* users with new customization options. This upgrade makes it possible to present much of the bibliographic information in both Chinese (Simplified) and English. [...]

3. Nutritious New Low-Sugar Juice Targeted for Diabetics, Individuals with High Blood Sugar

(ACS, 20-03-2009)



Scientists in China are reporting development of a low-calorie, low-sugar vegetable juice custom-designed for millions of individuals with diabetes and pre-diabetic conditions that involve abnormally high blood sugar. They reported on the new drink here at the 237th National Meeting of the American Chemical Society. [...] Prof. Xing of Jilin University, China, said that the juice has a good mix of sweet and sour flavours. "It has a good taste with reduced calories due to lower carbohydrates," said Xing. "I believe we can put it on the market possibly in one year after a few more tests."

4. NSFC Set Up Research Fellowship for International Young Scientists

(NSFC, 20-03-2009)

The provisional scheme of the Research Fellowship for International Young Scientists was recently approved by the Council Meeting of the National Natural Science Foundation of China (NSFC), which marks the official inauguration of this research fellowship. The primary objective of this research fellowship is to attract outstanding international young scientist doing basic research in the field of natural sciences in mainland China, and establish academic linkage for younger generation of scientists in an increasingly globalized environment of basic research. The research fellowship will provide excellent opportunity for international young scientists to promote research, establish stable partnership with Chinese researchers and understand Chinese society and culture. This is also of strategic importance to foster Chinese research talents with international experience. [...]



5. Critical Gene for Enhancing China's Super Rice Yield Identified

(Xinhua, 23-03-2009)

Chinese scientists announced on Monday, 23 March 2009, that they have identified a gene that has played a key role in increasing the yield of China's high-yielding super rice. The gene is known as DEP1, but its mutant is called dep1, which can accelerate the division of rice cells and produce more grains per panicle. The mutant will become an important tool for rice breeding. [...] A research paper has been accepted by the journal Nature Genetics and already appears in its Advance Online Publication. [...]

6. Chinese Researcher in Arkansas Led Team to Create Stable Superhydrophilic Surfaces on Glass

(Newswise, 26-03-2009)



Working at the nanoscale level, University of Arkansas engineering researchers, led by [Zou Min](#), associate professor of mechanical engineering and author of the study published in the Nanotechnology, have created stable superhydrophilic surfaces on a glass substrate. The surfaces, made of randomly placed and densely distributed micron-sized silicon islands with nano-sized spikes, allow water to quickly penetrate textures and spread over the surface. The research will aid in the development of commercial products with superior self-cleaning and anti-fogging properties and could lead to the design of microfluidic chips with a network of tracks or channels to better control the flow of liquid. [...]

7. Wenchuan Earthquake Mudslides Emit Greenhouse Gas

(Science Daily, 12-03-2009)

Mudslides that followed the 12 May 2008 Wenchuan, China earthquake, ranked by the US Geological Survey as the 11th deadliest earthquake ever recorded, may cause a carbon-dioxide release in upcoming decades equivalent to two percent of current annual global carbon emissions from fossil fuel combustion, a new study shows. Mudslides wipe away plants and topsoil, depleting terrain of nutrients for plant regrowth and burying swaths of vegetation. Buried vegetable matter decomposes and releases carbon dioxide and other gases to the atmosphere. The expected carbon dioxide release from the mudslides following the Wenchuan earthquake is similar to that caused by Hurricane Katrina's plant damage, reported Diandong Ren of the University of Texas at Austin, and his colleagues, who used a computer model to predict the ecosystem impacts of the mudslides. [...]



8. China's Big Radiation Light Source Project to Be Commissioned

(CRI, 16-03-2009)

A 1.2 billion yuan (175 million U.S. dollars) synchrotron radiation project in east China's Shanghai will be completed and put into use in late April, researchers said Sunday. The Shanghai Synchrotron Radiation Facility (SSRF) project is a key scientific research and technology development platform in China. The project began construction in December 2004 in Shanghai's Zhangjiang Hi-tech Park. The SSRF is a third-generation of synchrotron radiation light source that will serve as great tools for Chinese scientific research and industry community. [...]



Events (April – July 2009)

April 2009

Exhibition “Minimal Landscapes”

Date: 7 – 17 April 2009

Place: Shanghai

- Organised by [Swissnex Shanghai](#) – Exhibition and lectures on stem cell research given by Prof. Ariel Ruiz i Altaba
- For more details, please contact Swissnex Shanghai, Ms. Eveline Winiger at eveline.winiger@swissnexshanghai.org

2009 APAIE Conference & Exhibition

Date: 15 – 17 April, 2009

Place: Beijing

- The top higher education conference in China

“Swiss Day” Student Event at Beijing Foreign Studies University

Date: 18 April 2009

Place: Beijing

- Organised by the Embassy of Switzerland in Beijing, in cooperation with the “Swiss Study Centre” at Beijing Foreign Studies University
- For more details, please contact Emily at shu.zhou@eda.admin.ch

2nd International Workshop on Synchrotron Radiation Circular Dichroism Spectroscopy

Date: April, 2009

Place: Beijing

- Academic exchange

2009 Workshop on the Physics of Excited Nuclei

Date: April, 2009

Place: Beijing

- Academic exchange

May 2009

CHITEC Exhibition 2009 – the 12th China Beijing International High-tech Expo

Date: 20 – 24 May 2009

Place: Beijing

- Annual high-tech expo in Beijing

2009 China International Weighing Instrument Exhibition

Date: 5 May 2009

Place: Shanghai

- Electronic Balance Weighing System Weighing Instrument

International Solar Energy & PV Projects (Shanghai) Exhibition, SNEC International Solar and PC Conference

Date: 6 May 2009

Place: Shanghai

- Solar energy, PV project

Shanghai Int'l Exhibition & Seminar on New Tech. and New Equipment of the Starch Industry 2009

Date: 13 May 2009

Place: Shanghai



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- Starch and Related Productions and Equipment

The 3rd China (Beijing) Int'l Exhibition and Symposium on Police and Anti-Terrorism Technology and Equipment

Date: 19 May 2009

Place: Beijing

- Police vehicles; Supervising, checking and monitoring equip.

2009 Int'l Equipment Exhibition & Technical Seminar of Forensic Science, Narcotics Control and counter -Terrorism

Date: 20 May 2009

Place: Beijing

- Equipments & products for forensic science, investigation, drug control and anti-terrorism, police vehicles, police protection, etc

The 3rd Shanghai Int'l Aerospace Technology and Equipment Exhibition

Date: 26 May 2009

Place: Shanghai

- S & T cooperation and exchange

Aviation Tech. Expo China 2009

Date: May 2009

Place: Beijing

- Aviation Equipment

10th Int'l Vacuum Exhibition 2009

Date: May 2009

Place: Beijing

- Academic Exchange

Int'l Conference on Scientific Computation and Differential Equations

Date: May 2009

Place: Beijing

- Academic Exchange

16th Real Time Conference, IEEE-NPSS Technical Committee on Computer Applications in Nuclear and Plasma Sciences

Date: May 2009

Place: Beijing

- Academic Exchange

Int'l Conference on Mathematical Control Theory

Date: May 2009

Place: Beijing

- Academic Exchange

June 2009

The 11th China Int'l Environmental Protection Exhibition and Conference- CIEPEC 2009

Date: 1 June 2009

Place: Beijing

- Environmental Protection

Tenth Int'l Conference on the Science and Application of Nanotubes

Date: June 2009

Place: Beijing

- Academic Exchange



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July 2009

1st Dalian International Education and Cultural Innovation Industry Fair

Date: 17- 20 July 2009

Place: Dalian World Expo Centre

- Contact: Ms. Zhang Qi, zhangqi@citff.com.cn

Int'l Congress of Biochemistry and Molecular Biology

Date: 20 July 2009

Place: Shanghai

- Academic Exchange

23th Int'l Congress on Conservation Biology

Date: July 2009

Place: Beijing

- Academic Exchange

Young Scientists Program 2009

Date: July 2009

Place: Shanghai

- Academic Exchange

Int'l Symposium on the Family Zingiberaceae

Date: July 2009

Place: Yunnan

- Academic Exchange

2009 Symposium on Computational Chemistry and HPC Applications

Date: July 2009

Place: Haerbin

- Academic Exchange

Source: www.most.gov.cn