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EUROPEAN UNION DELEGATION TO CHINA



CHINA LINKS NEWSLETTER

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In this January edition of **China Links Newsletter**, we focus on cooperation in the field of clean energies and highlight the very productive and fruitful exchanges the European Commission has developed with China in this particular field. This success rests on the strength of Europe's technological and industrial expertise on the different aspect of clean energies, from engineering and electricity distribution to green chemistry.

Green chemistry is precisely the field targeted by our next China Links Thematic Meeting scheduled to be held next 28 March at Fudan University in Shanghai. This one-day event will address the topics of bio-resources conversion into energy and materials and of CO2 Valorization. The links between research and markets will be a focus of the meeting which will bring together major European and Chinese labs together but also the major companies active on these topics. The agenda will be finalized soon but you can already register to take part in this meeting by writing to Jacques.desoyres@euraxess.net.

The **Calls and Announcements** section features other important information, in particular the launch of a broad consultation on the Green Paper 'From Challenges to Opportunities: Towards a Common Strategic Framework for EU research and innovation funding' adopted by The Commission on 9 February 2011. This Green Paper presents key issues to be taken into account for future EU research and innovation funding programmes. Information about this consultation and how to participate in it is given in the announcement on page 15.

We also inform you about the next ChinaAccess4EU workshop in Grenoble, France, in March, and, in the Calls section, the Erasmus Mundus 2011 call, open until 29 April. Among the new calls listed, European researchers having done research in China and looking for returning to Europe to continue and develop their research further there, might be interested in the French return grants programme and the return grants from the Belgian Federal Science Policy Office. Deadlines for the Marie Curie fellowships and International Research Staff Exchange Scheme (IRSES) are approaching and listed in the **Open Calls under FP7** sub-section.

The *Understanding Science: Seminars by EU Scientists* are now reaching their cruising speed as a 3rd session is scheduled on 22 February. Young European researcher and STF fellow Aurélien Stalder will introduce the newest developments of live 3D blood flow imaging. You will find other scientific events to be held in China in the coming weeks or months under the **Forthcoming Events** section.

This month's S&T Highlights from the media features the seasonal S&T and S&T international cooperation awards. The Chinese government conferred the latter ones to five foreign scientists for their contributions to China's science and technology development, including four from Europe. Another recognition of the fruitful S&T cooperation between the European countries and China also regularly illustrated by the testimonies published under this newsletter's **Researchers' Voices** section. We would like here to thank this month's contributors, who are offering insights into their current research work or sharing information about their ongoing activities in China. The article introducing the FP7-funded SPRING project will certainly be of particular interest to those of you involved in environmental research.

We hope that you will find this January edition of **China Links Newsletter** interesting and wish you a very happy and successful year of the Rabbit! 兔年快乐! (tu nian kuai le!)

Best wishes,

Philippe Vialatte

Head of the ST&Env't Section of the [EU Delegation to China](#)

About this newsletter

CHINA LINKS NEWSLETTER is a monthly electronic newsletter, edited by the S&T section of the EU Delegation to China in collaboration with EURAXESS Links China, which provides information of specific interest to European researchers in China.

The information contained in this publication is intended for personal use only. It should not be taken in any way to reflect the views of the European Commission, nor is the Delegation of the European Union to China responsible for the authenticity of the selected content.

Please email to jacques.desoyres@euraxess.net for any comments on this newsletter or if you think any other colleagues would be interested in receiving this newsletter, or if you wish to unsubscribe.

**Editors: Philippe Vialatte (EU Delegation Science, Technology and Environment section)
Jacques de Soyres, Information Officer of EURAXESS Links China**

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InFocus

China's international cooperation in clean energies and energy conservation technologies with the European Commission (EC): Recent Developments

Confronted with situations where environmental problems already seriously affect its present and threatens the sustainability of its social and economic development, China has taken a leading role on the world stage in the promotion of certain green technologies. As for many other fields, the pursuit of this technological development goes through the development of a dynamic and multi-oriented international cooperation, under the guidance of central authorities.

This article focuses on the most recent development of the cooperation with China led by the European Commission in the fields of clean energies and energy conservation technologies. The article can't detail this time the activities initiated by Member States individually but one should keep in mind that these activities contribute very considerably to the leading position of the European Union (EU) in China regarding clean energies.

Despite this major restriction in scope, we will try to show that Europe has been benefiting from its long-lasting commitment in the establishment of a low carbon economy to become China's major cooperation partner in this particular field. The EC-China cooperation in clean energy covers a wide range of topics (from regulatory to technological aspects) and has already given birth to many projects. The consistent efforts and commitment of the EU at home to support the development of the clean energy sector (industry and research) and to establish an adapted legal framework (such as the [Climate Action and Renewable Energy package](#) in 2008) have been key assets in the development of this cooperation.

While the EC-China energy cooperation can be traced back to 1994, it intensified with the establishment of the [Energy Dialogue](#) between the European Commission and the Chinese Central Authorities in 2005. The first clean energy-focused cooperation tool with China was the Energy and Environment Programme (EEP), which run from 2004 to 2008. This 42.9 M€ project (China contributing 22.9 M€ and the EU 20 M€) aimed at strengthening the security of energy supply and protecting the global environment. Energy efficiency and renewable energy were among the main components of this programme which consisted firstly in study tours to Europe, workshops and studies on China's clean energies development potential.

When the EEP programme closed, the National Energy Administration of China and the European Commission decided to continue their practical cooperation and designed together the [Europe-China Clean Energy Centre \(EC2\)](#), officially inaugurated in Beijing in April 2010 by Chinese National Energy Administrator Zhang Guobao and European Commission President Jose Manuel Barroso. EU Commissioner for Energy Gunther Oettinger and EU Commissioner for Climate Action Connie Hedegaard also attended the ceremony. Located on the campus of Tsinghua University at the Sino-Italian Environment and Energy-efficient Building (SIEEB), EC2 is hence a physical location where European and Chinese experts coming from the 9 prestigious European and Chinese partners managing the project can work daily together.

More than a new project, EC2 aims at becoming a long term support institution for EU-China cooperation projects on clean energy. The Centre combines research and technological analysis on clean energy, identification of technological needs, potential projects, best practices and partnership opportunities, focusing on 5 areas:

1. Clean coal (including carbon capture/storage and efficiency increase in power production)
2. Sustainable bio fuels
3. Renewable energy sources
4. Energy efficiency in energy consumption (Buildings, products, industry)
5. Sustainable and efficient distribution systems.

The Centre already hosted significant events in the EU-China cooperation on clean energies such as the 2nd China-EU Clean Coal Workshop on 29 October, 2010, a joint initiative of the National Energy Administration (NEA) and the European Commission under the framework of the EC-China Energy Dialogue, which brought together policy makers, industry and academia to share best practices, policies and technologies.

Another significant event held at the EC2 centre has been the EU-China Smart Grid Conference in April 2010, which highlighted the very productive ongoing cooperation between the EU and China in this field, such as several study tours to Europe organized in 2010 for Chinese delegations, and intensive exchanges between Chinese and European researchers, engineers and business representatives of the sector both in Europe and in China.

The last two events to date to have taken place at the EC2 addressed another key topic of our cooperation with China in clean energy: energy efficient buildings. Held in January 2011, both events were attended by Chinese and international specialists alongside Chinese and European government officials in order to discuss technological options and rules for energy performance in the building sector. This cooperation on this topic is based upon a MoU on [Cooperation Framework on Energy Performance and Quality in the Construction Sector](#) signed in November 2009. Another major component of this cooperation on building energy efficiency is the [SWITCH Asia Train the Trainers Project](#) targeted at the construction industry.

Besides the EC2 centre, the **China-EU Institute for Clean and Renewable Energy (ICARE)** located at Wuhan Huazhong University of Science and Technology will offer a masters programme, vocational training and an international platform for research and intends to address the urgent need of China in training qualified personnel to operate and also further develop clean energy technologies and infrastructures.

The EC and China are also working together on a concrete demonstration project in the area of carbon capture and storage. The main cooperation project is the **Near-Zero Emissions Coal plant project (NZEC)** that envisages the construction of a Coal Power Plant by 2020, to which will be added for demonstration a Carbon Capture and Storage system reducing CO2 emissions to near-zero. This project was launched in 2005 under the [EU-China Partnership on Climate Change](#), a political dialogue focused on energy issues. The NZEC project has three phases. The first one, completed in October 2009, was to explore the potential option for carbon capture and storage for coal-fired power generation in China. The second phase of the project, currently pending approval by the Chinese authorities, will aim at conducting a feasibility study for the construction of the demonstration coal power plant, and phase three at constructing and operating the plant.

In addition,

- In the **clean vehicles** sector, the European Commission is engaged in a dialogue with the Chinese Ministry of Industry and Information Technology to discuss and cooperate on the key-issue of standards. On a more general regulatory level, the European Commission and European experts are also providing advices for the drafting of the new **Chinese Energy Law** at the request of the State Council Legislative Affairs Office.

- The **European Investment Bank** (EIB) as well is massively financing renewable energies, improvement of energy efficiency and reduction of CO2 emissions projects through a one billion euro [Climate Change Finance Loan \(CCFL\)](#) to China (first envelope of 500 million EUR agreed in 2007, and second envelope of 500 million EUR signed on 3 December 2010).
- **A number of Chinese research teams are involved in European research projects related to clean energies, supported by the Seventh Framework Programme of the European Union for research, technological development and demonstration activities (2007-2013).** (See previous article on FP7 cooperation with China in the [August-September edition of this Newsletter](#))

In summary, developments of EC-China cooperation on clean energies once again illustrate:

- **A strong and long-lasting involvement of the European Commission** through high level political dialogues, major concrete cooperation projects and proactive support to exchanges between the European and Chinese research and business communities;
- **The ability to build cooperation on a strong industrial and technological expertise by European research institutions and businesses** gained through years of investment in clean energies development within Europe;
- **A large total number of projects, covering the different aspects of clean energies,** from technological development to training and industrial deployment.

-

To conclude this very brief, general and non-exhaustive overview of the main cooperation tools between the EC and China, we would like to underline that cooperation in energy and environment has been a major component of the EU-China relationship at least for the past seven years. The fruitfulness of this cooperation can be seen in the large number of projects already running as well as in the strong presence of European companies on the Chinese market.

With a similar approach, the USA increased commitment to clean and renewable energy at home and the US-China cooperation appeared to have gained momentum relatively recently, with several concrete collaborative projects to be implemented, featuring an important role for the private sector compared to the public, as reflected in the [brochure edited last month by the American Department of Energy](#): " U.S.-China Clean Energy Cooperation, A Progress Report by the U.S. Department of Energy".

The consciousness by all parties of our common interest in reducing carbon emissions globally will, too, remain a key-element for a successful and sustainable cooperation in the field of clean energies. Efforts done by Europe in this regard over years is a key factor of its successful cooperation with China in this field, a cooperation that is promised to further intensification and actively contributes at the same time to the goals of the EU energy policy: security of supply, sustainability, and industrial competitiveness.

Editors: Philippe Vialatte, EU Delegation Science, Technology and Environment section

Jacques de Soyres, EURAXESS Links China Information officer

Researchers' voices

Articles featured in this section have been sent to us by members of the readers' community for publication in the newsletter.

We welcome your articles for the next edition, be it scientific articles, information on research and S&T programs in China or more personal testimonies about doing research in China.

Please send the articles to Jacques.desoyres@euraxess.net

The SPRING project: Understanding and engaging the China environment sector

Full project name: Scoping China's Environmental Research Excellence and Major Infrastructure: Foresight, Potentials and Roadmaps

Instrument: FP7 Cooperation under Environment theme

Project duration: March 2010 – February 2013



By **Mrs Patricia Xavier**,

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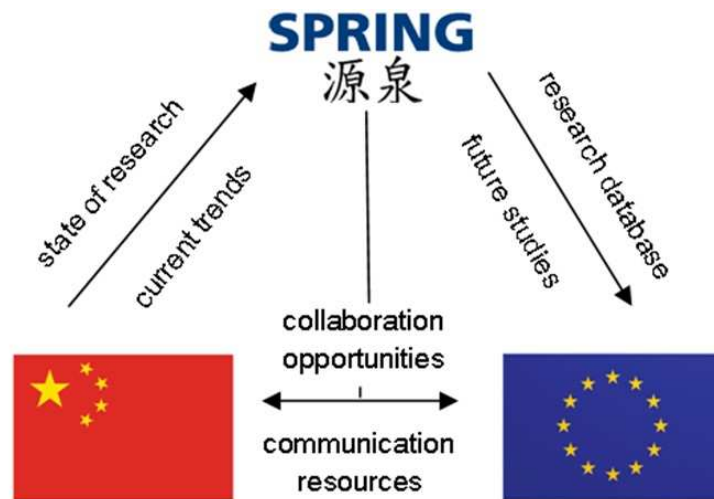
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SPRING aims to understand and assess the competencies of the China environmental research field, develop foresight and road-mapping studies to inform development of strategic links between the EU and China and to facilitate communication in environmental research.

In order to improve opportunities for EU-China environmental research cooperation, there is a need to create a long-term vision of the environment sector development, identifying pathways for the two regions to work together effectively. SPRING will take a multi-level approach to achieving this by (i) mapping resources, (ii) understanding the sector and developing foresight and road-mapping studies to manage long term aims, and (iii) building tools to aid communication to facilitate cooperation and exchange for researchers, policy and decision makers and funding bodies.

Mapping resources, identifying excellence and highlighting opportunities

Associate Professor Liu Shuming of Tsinghua University is leading the collection of sector data, including identifying researchers, research infrastructure and equipment, projects and funding. This information will reside in a searchable database, accessible from the project website. The project team at Tianjin University (lead by Associate Professor Niu Zhiguang) is in the process of developing a set of criteria for excellence. The robust criteria will help to identify nationally-excellent and internationally-excellent researchers and research groups.



The SPRING approach to facilitating EU-China environment research

Understanding the sector and developing foresight studies



SPRING is identifying excellence in environment research at universities and research institutes throughout China

Associate Professor Zhou Yun of the China Research Academy of Environmental Sciences is coordinating the sector review, foresight and road-mapping studies. To move bi-lateral environment research forward, the different institutional structures, research priorities and funding streams must first be understood. The EU and China have different strategies for policy development, regulation and research of environment management. Priority research themes also differ, the emphasis on funding for environment sub-topics (water scarcity, alien species, soil contamination etc.) within each region may vary significantly. To address this, complementary background studies and a review of foresight studies in the EU and China have been carried out. SPRING is now in consultation with sector experts to collect feedback on the future trends identified. Following this, a series of foresight 'scenario-building' workshops, designed and coordinated by Zoya Damianova at the ARC Fund, will be held to identify the sub-themes with the most opportunity for bi-lateral cooperation.

Building tools to aid communication

The SPRING website www.springproject.eu is online now and will eventually host a bi-lingual e-mail client and information resources relating to China researchers, institute and research projects.

Participants

The SPRING consortium represents expertise in environment science, foresight and ICT. SPRING is coordinated by the University of Surrey. Europe participants are University of Bristol, University of Exeter, CICERO and ARC Fund. China participants are Tsinghua University, Peking University, the China Research Academy of Environmental Sciences, the China Institute of Water Resources and Hydropower Research and Tianjin University.

Current and upcoming events in 2011

Consultation

(open February – April)

Consultations – SPRING is holding a consultation on the initial findings from the background studies and tentative foresight projections that have been developed. As part of this, SPRING will be holding a number of expert panel discussion groups, notably at the European Geosciences Union 2011 conference 3rd – 8th April in Vienna.

European Geosciences Union Congress EGU2011

3rd- 8th April, Vienna

SPRING are co-hosting session EG1, **Today and Tomorrow: Environmental Perspectives and Futures**, a session focussing on multi- and bi-lateral cooperation in the environment sector.

<http://meetingorganizer.copernicus.org/EGU2011/session/7656>

Sino-European Environment Exchange workshop

5th-6th July, Beijing

This bilateral meeting co-hosted by SPRING and the China Ministry of Science and Technology, invited speakers from selected FP6 and FP7 projects will be invited to present results and engage in foresight workshops with China researchers.

Further information and contact details

The SPRING website www.springproject.eu is kept up to date with information about the project. For more about SPRING, upcoming events, how to get involved or stay informed, contact Soon-Thiam Khu or Patricia Xavier (details below).

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Sustainable Transport Management in China and Europe

By **Dr. Stefan Fenz**, stefan.fenz@tuwien.ac.at

And **Prof. Dr. A Min Tjoa**, amin@ifs.tuwien.ac.at

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Mobility and transport are crucial to our quality of life and is vital for China's and the European Union's competitiveness. As the backbone of our economy it links the different states of production chains and allows service industries to reach their clients. As such it is crucial for achieving the goals of the European Union's Lisbon strategy for growth and development. By 2009, China is the European Union's 2nd biggest trading partner and the Chinese-European

trade is responsible for a substantial part of the CO2 emissions produced by worldwide trade movements. In 2008, the European Parliament and the European Council have stressed the importance of a sustainable transport policy, especially in the context of addressing climate change.

Under the given economic framework, companies and supply chains cannot treat sustainability as an end in itself. Current research in this field puts a strong focus on environmental aspects, but sustainability is a multidimensional problem which has to integrate social, environmental, and economic aspects.

The China-Austria Research and Innovation Center in Logistics, Information Flow, Supply Chain Management and Material Flow, focuses on comprehensive approaches for sustainable transport management. The centre has been established in September 2009 and is located at Beijing Jiaotong University. It is legally based on an agreement between the Eurasia-Pacific Uninet¹ members Beijing Jiaotong University, Beijing University of Aeronautics and Astronautics, Peking University, Vienna University of Technology, Vienna University of Economics and Business, University of Vienna, and Johannes Kepler University Linz. The centre aims at integrating all research aspects in the areas of logistics, information flow, supply chain management, and material flow to enable innovation in this economically most eminent area.

From November 22 – 27, 2010, the Centre and its participants conducted the 1st China-Europe Forum for Material Flow/Logistics at Beijing Jiaotong University. The main forum topic was “Supply Chain in the Future: Low-carbon and Sustainable Development”. Attendees and speakers included governmental, academic, and business representatives from China, EU, and US. In accompanying workshops the participants identified future challenges in the field of sustainable transport management systems and planned joint research projects in these fields.



¹ EURASIA-PACIFIC UNINET is a network which aims at establishing contacts and scientific partnerships between Austrian universities, universities of applied sciences, other research institutions and member institutions in East Asia, Central Asia, South Asia, and the Pacific region (<http://www.eurasiapacific.net/>).

In the upcoming years the Centre will conduct sustainable transport management research regarding (i) economic and policy aspects, (ii) transport process optimization, (iii) environmental impact analysis, and (iv) enhanced information technology support. By addressing the identified challenges the Centre aims at providing comprehensive and novel sustainable transport management approaches to industry and research.

MMP16: The bridge between digital electronics and computer architecture

By **Elio Pérez Calle**

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As some authors point out², although today most students start undergraduate courses having already had contact with computers as users, computer organization and architecture involves many abstract concepts for those undergraduate beginners. Therefore, most of them might understand the computer as the tool they use for Internet browsing and social networking on a daily basis. In this situation, professors are required to fill an enormous gap between the end-user approach of students and the principles of computer organization, whose concepts are completely new to them.

This gap is caused by the increasing number of abstraction layers interposed between the hardware and end-user oriented applications. A depiction of this can be found here³, where Prof. Andrew Tanenbaum defines a 6-tier structure present in modern computers, going from the digital logic level to the problem-oriented language level, as shown in Fig. 1.

MMP16⁴ stands for 16-bit Didactic Micro-Programmed Micro-Processor and is focused on the second level of this hierarchy (microprogramming level). It requires the students to have basic knowledge of circuit theory and elemental digital components, such as logic gates, multiplexers, decoders, adders, registers, and so on, as defined in most electrical and electronic engineering undergraduate curricula.

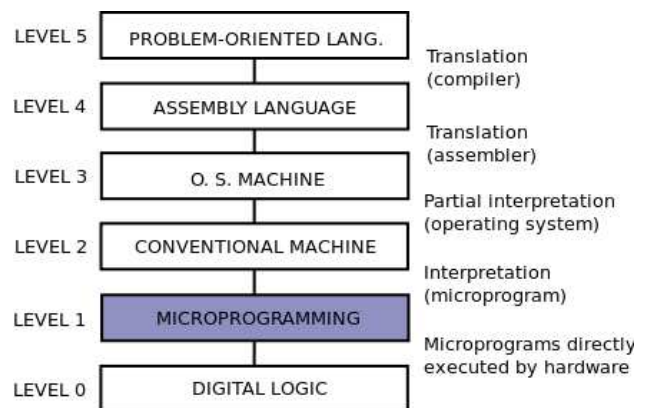


Illustration 1: Computing levels defined by Tanenbaum.

² Calazans, N. L. V. and Moraes, F. G. (2001). Integrating the teaching of computer organization and architecture with digital hardware design early in undergraduate courses. IEEE Transactions on Educations, 44(2):109–119.

³ Tanenbaum, A. S. (2009). Structured Computer Organization. Pearson International.

⁴ López Presa, J.L, Pérez Calle, E. MMP16: A 16-bit Didactic Micro-Programmed Micro-Processor In Press.

The motivation behind the design of MMP16 is to link digital electronics with computer architecture and, therefore, show the students how a computer can be built using the simple components they already know. Furthermore, the use of a working example is the best way to understand the key concepts of computer organization. Based on the excellent theoretical approach developed by some authors⁵, MMP16 provides not only the design of a microprogrammed microprocessor aimed at learning purposes, but also non-commercial software to be used in laboratory classes. This approach overcomes the limitation of available commercial software, and particularly the time-consuming learning of the program interface by the students and the orientation towards professional applications⁶. On the contrary, MMP16 is completely focused on learning, in both theoretical and practical skills.

MMP16 has been designed with a strong emphasis on the principles of computer organization, and therefore the processor is neither complex nor modern. Nevertheless, the model, shown in Fig. 2, is complex enough to allow the student to learn the basics of the design of a simple processor, and to introduce them to advanced concepts such as pipelining.

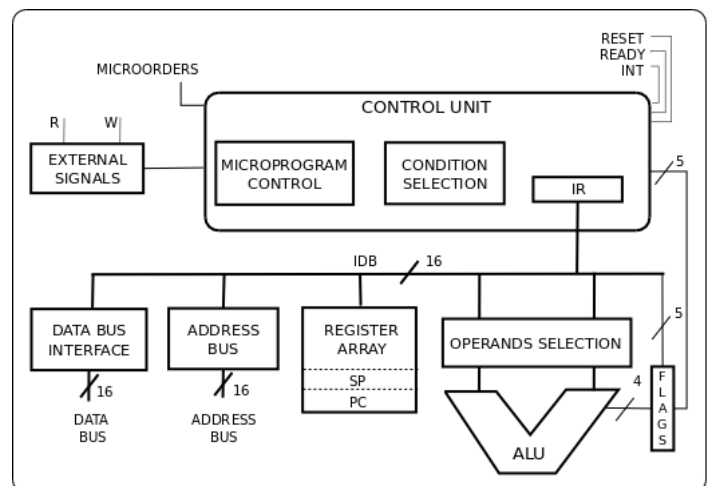


Illustration 2: Architecture and organization of MMP16.

The design is focused on the CPU, as the main goal of MMP16 is to consolidate the students knowledge about CPU inner organization and instruction sequencing. MMP16 covers the main principles of computer organization and provides the students enough understanding of the structure of a computer to be able to tackle more advanced concepts and techniques such as the massive use of pipelining, parallel processing, etc.

Other of the main features of MMP16 is the possibility for the students to code and test their own microprograms. Writing microprograms and testing them using MMP16's software simulator allows the students to better understand the inner operation of the processor.

The operation of MMP16 can be simulated using a free software developed by the authors and available for both Windows and GNU/Linux platforms. Using this simulator, the students can test if their microprograms execute properly the selected instructions. The simulator includes commands to store the desired values in the control memory, the core memory of the simulated system and any register in the CPU, or print their values, at any time. The simulator is the perfect complement to the practical exercises in order to understand instruction sequencing and the data path management, and helps the students to comprehend the inner operation of the processor they have already studied in theory. Furthermore, MMP16's software simulator is the last step in the process of connecting the student's knowledge about digital electronics (that can be applied to understand MMP16's hardware implementation) to the principles of computer organization and the basics of computer architecture (whose operation can be better understood thanks to the simulator).

⁵ Tomek, I. (1990). The Foundations of Computer Architecture and organization. W. H. Freeman and Co. and Patterson, D. A. and Hennessy, J. L. (2008). Computer Organization and Design. Morgan Kaufmann.

⁶ L. Rodriguez Pardo, M.J. Moure, M. V. and Mandado, E. (1998). Viscp: a virtual instrumentation and cad tool for electronic. In Conference on Frontiers in Education and Maurer, P. (1998b). Enhancing the hardware design experience for computer engineers. In Conference on Frontiers in Education.

In conclusion, MMP16 covers the gap between digital electronics and computer architecture offering a complete set of didactic tools: the design of a modern computer, the practical application of the principles of computer organization including advanced concepts, the possibility to code and test microprograms, and finally a software simulator as the last step of the process.

The use of MMP16 as a didactic tool has improved the results of the students that learn principles of computer architecture. Based on the obtained results, we regard as the main advantages of this didactic tool its utility to understand key concepts despite its simplicity, the existence of a simulator that can be used to test their own microprograms and therefore connect theory and practice, and the link that MMP16 provides between digital electronic and computer architecture. The authors expect to extend the use of MMP16 to other higher education institutions in the nearer future. A document with the full description of the MMP16 with the full instruction set as well as the software simulator and other teaching materials can be downloaded from its official site⁷.

⁷ <http://www.diatel.upm.es/jllopez/mmp16/>

Calls and announcements

EURAXESS LINKS CHINA ANNOUNCEMENTS

China Links Thematic Meeting on Bio-resources Conversion into Energy and Materials and CO2 Valorization, Shanghai, 28 March, 2011

The China Links Thematic Meeting on Bio-resources conversion into energy/materials and CO2 valorisation, organized by the EU Delegation Science, Technology and Environment section in collaboration with EURAXESS Links China and in partnership with the environmental chemistry competitiveness cluster Axelera, University of Fudan and University of Lyon, will bring together European and Chinese representatives of research institutions and companies active in the fields of bio-resources conversion and CO2 valorisation.

It will aim at supporting the development of collaborations among them in order for European researchers to find new channels to develop their research and for European companies to increase their technological competitiveness.

The Thematic Meeting will feature:

- Introduction to the current situation of research in China on these topics
- Presentation of research projects
- Current and future needs of the market in terms of innovation.

Major labs and companies of the sector have already registered for this event. If you would like to attend please write to Jacques.desoyres@euraxess.net.

Few slots are still available to make presentations on CO2 Valorization. If interested in doing a presentation during this

session please write to the same address: Jacques.desoyres@euraxess.net.

The final agenda of the meeting will be released soon.

3rd Understanding Science session: Blood Flow in Color – Beijing, 22 February, 2011

The Understanding Science team is happy to invite you to its third conference for the general public on Tuesday February 22nd in Beijing (7.30 pm at [Laowai's Lounge, Wudaokou](#)), entitled "Blood flow in color". This event will consist on a 10-15 minutes talk (popularization) by Dr Aurélien F. Stalder who will introduce the amazing technique of live 3D blood flow imaging using Magnetic Nuclear Resonance (MRI). We are also please to welcome Pr. KunCheng LI as moderator for the following discussion/questions in the relaxed atmosphere of the venue.

Download the [flyer](#).

Organizers are always recruiting new speakers. [Find out more](#).

EU ANNOUNCEMENTS

Consultation: Green Paper on EU research funding

The Commission has on 9 February adopted a [Green Paper 'From Challenges to Opportunities: Towards a Common Strategic Framework for EU research and innovation funding'](#) (COM(2011)48), which **proposes major changes to EU research and innovation funding** to make participation easier, increase scientific and economic impact and provide better value

for money. The changes, to be introduced in the next EU budget after 2013, would bring together the current Framework Programme for research, the Competitiveness and Innovation Programme, and the European Institute of Innovation and Technology.

This Green Paper launches a public consultation on the key issues to be taken into account for future EU research and innovation funding programmes. The outcome of the consultation will subsequently feed into the preparation of the Commission's formal proposals for these programmes, which are due to be adopted before the end of 2011.

The Commission is seeking the views of all interested individuals and organisations on these proposed changes and on the specific questions set out in the Green Paper.

The consultation website is available at: http://ec.europa.eu/research/csfr/index_en.cfm. **Submissions can be made until 20 May 2011.**

In parallel, a competition for the name of the Common Strategic Framework is being organised.

You are warmly invited to attend this event.

Registration is done online at <http://iot-casagras.org/>

More information about the summit's programme is available at the same address.

EU-China Clean Energy Centre discusses energy efficiency in buildings

The recently built Europe-China Clean Energy Centre (EC2) situated on the grounds of Beijing's Tsinghua University, was host to two key seminars in January regarding new ideas for energy efficiency within the building sector.

The initial seminar, on 20th January, concerned low emission technology options whilst the second, taking place over the 21st and 22nd, was a training seminar titled "Rules for energy performance in the Building Sector". Both events were attended by Chinese and international specialists alongside Chinese and EU government officials. In the spirit of cooperation and information sharing between the two sides, high level experts from Europe and China were invited to present their ideas and experiences on improving energy efficiency in buildings.

EU-China Internet of Things (IOT) Summit 2011

The EU-China Internet of Things Summit 2011 will take place **in Wuxi on 24 February, 2011**. This meeting is organized by the project CASAGRAS2, a Support Action funded by the European Commission under FP7 to foster concrete partnerships activities between China and Europe on the internet of things.

ChinaAccess4EU project dissemination and training workshop, 31 March 2011, Grenoble

On 31 March 2011, the second ChinaAccess4EU project dissemination/training workshop will be held in Grenoble, France. The workshop will cover topics including Chinese programmes fostering and supporting science and technology, potential opportunities and obstacles, success stories in participating in Chinese funded S&T programmes, and

important points of contact in China and Europe for researchers interested in international collaboration.

If you are interested in attending this event, please register online [here](#). Spaces will be limited for this event.

For more information please contact the coordinator of the project Mrs Sara Medina at samedina@spi.pt.

EU-Sino study spotlights traditional Chinese medicine

An EU-funded international team of researchers is working to inform the public about the safety and efficacy of TCM, which focuses on a tailor-made, holistic approach to treat patients. The GP-TCM ('Good practice in traditional Chinese medicine research in the post-genomic era') project is funded under the EU's Seventh Framework Programme (FP7) to the tune of EUR 995 100.

The researchers from 13 EU Member States, Australia, Canada, China, Norway, Thailand and the US are assessing the current status of TCM, as well as identifying issues and providing answers on quality control, extraction and analysis of Chinese herbal medicines through 10 Work Packages that have been developed for the project.

Launched in 2009 and due to end in 2012, GP-TCM will create and maintain the European Society of Chinese Medicine Research, thus ensuring the guidance and coordination of EU-China cooperation in TCM research.

[More details](#)

MEMBER STATES – CHINA ANNOUNCEMENTS

Launch of the International Technology Transfer Network (ITTN) in Beijing

ITTN aims at bringing together world innovation resources together and to promote international technology transfer. Supported by the Chinese Ministry of Science and Technology, guided and sponsored by the Beijing Municipal Science and Technology Commission, 45 technology transfer institutions from 15 different countries have been involved in the creation of ITTN.

The official launching ceremony of this network was held in Beijing on 26 January, 2011 and attended by over 200 people from over 70 countries.

Find out more on the [ITTN website](#).

The first [International Technology Transfer Beijing Conference 2011](#) will be held on 14 and 15 April, 2011.

NSFC-RSE Results of 2011 selection of joint projects

The National Natural Science Foundation of China (NSFC) and the Royal Society of Edinburgh jointly selected 7 joint research proposals for funding in 2011.

Find the list of selected projects on [NSFC website](#) (Chinese).

NSFC – 1st 2011 batch of recommended candidates for the International Young Scientists Fellowship

The [list](#) features 74 young international researchers of whom 28 are from EU Member states or associated countries.

NSFC – 2011 Guidelines for joint research projects with European partners released

NSFC released those guidelines for projects to be funded jointly [with the Netherlands Organisation for Scientific Research – NWO](#) (7 projects max in the field of Plant developmental biology, application deadline is 28 April, 2011), and [with the French Research Agency – ANR](#) (15 projects max in the fields of Material science & engineering science, Information & communication science and technology, application deadline is 14 April, 2011).

NSFC - CNRS Mathematics Summer Institute selected proposals

NSFC has released the [2 Sino-French proposals selected](#) for the joint Mathematics Summer Institute project to be implemented during Summer 2011.

Master education for Sustainable Biotechnology at Aalborg University (Denemark)

The Section for Sustainable Biotechnology's integrated research approach (SSB, located at University Campus Ballerup (UB), Aalborg University, Copenhagen (AAU Cph)) is combining fundamental biotechnology with bioprocess engineering. The overall aim is to develop biomass conversion systems for the sustainable production of chemicals, fuels and materials (including feed and food). Research is mainly focused on the biochemical conversion of biomass into bioenergy and valuable by-products in biorefinery systems.

SSB is now proud to offer a [Master Program in Sustainable Biotechnology \(autumn semester\)](#) as well as Ph.d Courses in Biorefineries and Anaerobic Digestion. Teaching is according to the

inter-disciplinary, problem-oriented "Aalborg University model".

This master programme is free (no tuitions fees) for all European Citizens and all courses on the education are given in English.

Find out more about this master education [here](#).

UK and China celebrate International Year of Chemistry

The 63rd UN General Assembly declared 2011 to be the International Year of Chemistry (IYC 2011) and appointed UNESCO and the International Union of Pure and Applied Chemistry (IUPAC) as lead organizers. In order to celebrate the launch of IYC 2011 and the 100th anniversary of the award of the Nobel Prize in Chemistry to Marie Curie, the Royal Society of Chemistry (RSC) Beijing Section in conjunction with the British Embassy and supported by the Chemical Industry and Engineering Society of China (CIESC), the Chinese Chemical Society (CCS) and the Division of Chemistry of CAS organized a breakfast meeting with the theme "Women Sharing a Chemical Moment in Time" on 18 January 2011.

L'Oreal-Unesco Women in Science 2011 award winner, Prof V. Wing-Wah Yam from Hong Kong University gave a keynote speech followed by Mrs Gu Xiulian (former Minister of Chemical Industry and President of the All-China Women's Federation), addressed the audience, along with Dr. Richard Pike (CEO of the RSC), other senior women scientists (including via a Skype video-link with Brisbane and Singapore), as well as younger researchers and students.

A similar meeting was held several hours later in London and video messages from Chinese guests answering the question "what message would you give to aspiring

young female scientists in the UK?" were conveyed to the participants of this London's meeting. S&T Counsellors from Poland and France attended the event as well as Ms. Jessica Mitchell (S&T attaché) and Ms Yi Xiaolin (Cooperation attaché) of the EU Delegation participated in the event. Video footage of the events in Beijing and London have been transferred to Paris for use during the official launch of [IYC 2011](#) on 27 January 2011.

CALLS

Erasmus Mundus 2011 Call for proposals

The European Commission published the [2011 call for proposals](#) for the Erasmus Mundus programme.

Erasmus Mundus (2009-2013) is a cooperation and mobility programme in the field of higher education.

The program supports joint masters and doctoral degrees as well as mobility partnerships between European and non-European higher education institutions (HEI), including Chinese HEIs. In this framework, it offers scholarships for students and doctoral candidates from all over the world.

5 mobility partnerships projects exclusively targeted at China have been selected for the whole 2009-2013 period and 4 joint degrees programs (2 masters and 2 doctorates) including Chinese HEIs have already been selected to be supported. You can find a list of joint degree programmes supported through Erasmus Mundus, including those with Chinese participation, in this [compendium](#).

Other calls for proposals not exclusively targeting China but nonetheless open to

partnerships with China are published on a regular yearly basis, the last one being this [2011 call for proposals](#). Deadline is **29 April 2011**.

Sino-Swiss Science and Technology Cooperation (SSSTC) - Call for Joint Research Projects 2011

The Sino-Swiss Science and Technology Cooperation (SSSTC) program was established in 2003, after the signing of a memorandum of understanding (MoU) between the Swiss State Secretariat for Education and Research (SER) and the Chinese Ministry of Science and Technology (MOST). The SSSTC program encourages long term partnership and aims to provide opportunities for collaboration between Swiss and Chinese research institutions.

The current phase of the SSSTC (2008-2011) intends to reach beyond the MOST and to include the Ministry of Education (MOE) and Chinese Academy of Science (CAS) in the program as well. [ETH Zürich](#) remains the leading house (LH) for the program, and University of Zürich has been selected as the associated leading house (ALH) for the SSSTC 2008-2011.

The SSSTC funding instruments are:

- Joint Research Projects ([JRP](#))
- Institutional Partnerships ([IP](#))
- Faculty/Research Staff Exchange Grants ([FE](#))
- Student Exchange Grants ([SE](#))

The following Joint Research Project Call for Proposal is now published for 2011 (projects to start in 2012). The targeted research fields are Renewable Energy & Cleantech and Material Sciences & Nanotechnologies (proposals outside of the priority areas will not be accepted).

Both sides will contribute toward the cost of research projects. The Swiss participants will be supported by the SSSTC, and the Chinese participants will be supported by the Chinese Academy of Sciences (CAS). Chinese university participants who are not CAS members will have to secure their own funding from a Chinese source.

Deadline for proposal submission: April 30th, 2011.

More details [here](#) (English) and [here](#) (Chinese).

Call for applications - Innovational Research Incentives Scheme Vici (Netherlands Organisation for Scientific Research - NWO)

The Innovational Research Incentives Scheme has been set up in 2000 by NWO, KNAW and the universities jointly. The aim is to promote innovation in the academic research field. The scheme targets researchers at different stages of their career:

- Veni for researchers who have recently taken their PhD, to allow them to continue to develop their ideas; a maximum of 250,000 euro.
- Vidi for researchers who want to develop their own innovative line of research and appoint one or more researchers; a maximum of 800,000 euro.
- Vici for senior researchers to build their own research group; a maximum of 1,500,000 euro.

The Vici granting scheme is currently open for application.

This form of grant is directed at senior researchers who have shown that they have

the ability successfully to develop their own innovative lines of research and to act as coaches for young researchers. They will be enabled to build up their own research teams, often in advance of a regular professorial appointment. Their lines of research should be given a structural place within the research institution.

Who can apply

Researchers who have completed their doctorate with a maximum of 15 years (calculated from the date on which the doctorate was formally awarded to the deadline for the relevant round of Vici grant applications).

Researchers from outside of the Netherlands may apply.

What can be applied for

The maximum amount of grant will be € 1,500,000 for a period of five years.

When can be applied

- Closing date for submitting preliminary proposals is **31 March 2011**
- Closing date for submitting full proposals based on the preliminary proposals is 30 August 2011

[More details](#)

Return grants from the Belgian Federal Science Policy Office for researchers working abroad

In the frame of the promotion of the European Research Area, the Belgian Federal Science Policy Office has launched a programme of return grants. These grants are aimed to promote the reintegration of highly qualified Belgian researchers working since at least 2 years in a foreign country. Eligible candidates must be **Belgian**

nationals OR having spent at least 3 years in Belgium for R&D or higher education purposes, before their post-doctoral stay abroad.

There is no difference between a stay inside the EU and outside the EU, but the stay abroad must be post-doctoral. These mandates are granted for 24 months and on a full-time base. Concerned researchers may propose a research project to be performed in a Belgian research unit, in a research team related a.o. to Interuniversity attraction poles (IAP) or other research programmes financed by the Federal Authority.

Deadline is **14 March, 2011**. More details available [here](#).

Return grants for young researchers to come back to France

This programme is open to young French researchers and foreign researchers having done their PhD. in France, and currently based outside of France. It provides funding for a period up to three years for them to come back and do research in France. The selection is being made by a call for projects in all scientific fields.

Deadline is 17 March, 2011.

More information [here](#) on the ANR website (French).

Postdoc funding in Estonia

The Estonian Research Mobility Scheme (ERMOS) provides funding for a period of up to 3 years to PhD. holders seeking a postdoctoral position in Estonia.

The call opened in January and **will close on 2 March, 2011**. Applicants should apply through their prospective host supervisor.

More information available on the [Estonian Science Foundation website](#).

Anneliese Maier Research Award: Collaboration award to promote the internationalisation of the humanities and social sciences in Germany

This scheme from the German Alexander von Humboldt Foundation, offers 5 awards per year (up to 250,000 euro per award) for excellent researchers in social sciences and humanities to perform research in Germany.

Nominations for the research award can be made for researchers from abroad.

Award winners are expected to spend a period of up to five years cooperating on a long-term research project with the nominator and / or specialist colleagues at a research institution in Germany.

More details [here](#).

Helmholtz Association: Young Investigators Groups - Networking with Universities

This call is directed at top foreign or German junior researchers, 2 - 6 years after they have been conferred their doctorate (child-rearing periods will be taken into consideration) who would like to participate in a Helmholtz programme. The candidates **must have completed a continuous 6-month research period abroad during a doctorate or a post-doctorate phase**. The most important selection criterion is the outstanding quality of the applicants.

20 Young Investigators Group will be sponsored for 5 years with funding up to 250,000 euro per year.

Targeted research fields are: Energy, Earth and Environment, Health, Key technologies, Structure of matter, and Aeronautics, Space and Transport.

Applicants should contact the Helmholtz Centres directly via the given contact

persons. Applications may only be submitted via the Centres' boards to the Helmholtz Association's Head Office.

Deadline is 31st March 2011.

More details [here](#)

DFG - University Duisburg-Essen Doctoral fellowships in Chinese studies

The DFG Research Training Group at the Institute of East-Asian Studies, University Duisburg-Essen invites applications to its English-language doctoral programme from candidates with advanced Chinese or Japanese language skills and a strong MA (or equivalent) degree in Economics, Political Science, Sociology and Geography or in social scientific East Asian Regional Studies. Seven doctoral fellowships of 1000 Euro/month for a duration of three years, contingent on successful completion of the first year, will be awarded in 2011.

To support field research in East Asia and early entry into the European scientific community, support is also provided for travel and research in either Japan or China, and for a range of workshops and independent conference participation in Europe, especially with the UK Partner White Rose East Asian Centre at the Universities of Leeds and Sheffield.

**Application deadline is 15 March, 2011
for admission in October 2011.**

More details on [University Duisburg-Essen website](#)

President of Ireland Young Researcher Award (PIYRA)

The President of Ireland Young Researcher Award (PIYRA) is Science Foundation Ireland's most prestigious award to recruit young researchers currently based around

the world to carry out their research in third level institutions in Ireland.

Awardees will be selected on the basis of exceptional accomplishments in science and engineering that underpin Biotechnology, Information and Communications technology, and Energy, and on the basis of creative research plans that are built on work that has attracted international attention. The programme also intends to encourage entrepreneurial efforts that couple the Research Body and Irish-based industry in *appropriate* ways.

Funding up to 1 million euro for direct costs will be provided over a period of 5 years.

Applicants should have been awarded their PhD or MD within the last eight years and have completed a minimum of 36 months active post-doctoral research.

This is a rolling call with **applications accepted from 14 February, 2011.**

More details on the [Science Foundation Ireland website](#).

British Academy and Royal Society Newton International Fellowships

The Newton International Fellowships are funded by the British Academy and the Royal Society and aims to attract the most promising early-career post-doctoral researchers from overseas in the field of social sciences and humanities, natural and physical sciences.

The fellowships enable researchers to work for two years at a UK research institution with the aim of fostering long-term international collaborations. The scheme is open to postdoctoral (and equivalent) early-career researchers working outside the UK who do not hold UK citizenship.

Deadline for application is 4 April, 2011.

More information on the [Royal Society website](#).

NSFC International (Regional) Cooperation and Exchange Programme – 2011 call

This programme aims to speed up the development of scientific innovative research, to enhance China's international competitiveness in basic research and to consolidate the cooperative relationship between NSFC and overseas scientific institutions.

It is composed of different sub-schemes:

- International research exchanges, funding mainly exchanges of people (but not the international transportation costs of foreign researchers);
- International joint research, funding both major joint research programme on strategic topics and joint research projects in the framework of cooperation agreements that NSFC has passed with other foreign research funding organizations;
- International scientific conferences, funding those conferences held in China;
- International Young Scientists Fellowship, for those young scientists to perform research in China. ([2011 Calls Calendar](#))

Individual applications are not accepted by NSFC. Both the electronic version and the stamped hard copy of the application proposal should be submitted through the Chinese partner or host institution. **Interested European applicants should contact their Chinese partners as early as possible. [Application period runs from 1 March, 2011 to 20 March, 2011.](#)**

[More information](#) (Chinese)

Job announcement – Senior researcher Nokia China

Nokia China recently posted an announcement on the EURAXESS Job portal, looking for a senior researcher in the field of telecommunications technology.

Nokia's Senior researchers are expected to work as independent, reliable and solid contributors in a research project. They may also act as project managers. They should be experienced in their own technology area and may have broad knowledge of related technology areas.

The announcement was published on January 20. More details on [EURAXESS Job portal](#).

PREVIOUS CALLS STILL OPEN

(See [China Links Newsletter December 2010 edition](#) for details):

Chinese Government Scholarships 2011/2012 Application Period Open

Deadline: **30 April 2011**

Cai YuanPei 2011 Programme – Call for applications open

Deadline: **21 February, 2011**

Xu GuangQi 2011 Programme – Call for applications open

Deadline: **28 February, 2011**

The Hong Kong Research Institute of Textiles and Apparel (HKRITA) Collaborative Research Programme

Open all-year.

**Modern Applications of Biotechnology:
Research Grants for Postdoctoral
Students from China and Germany**

Deadline: **20 March, 2011.**

**Siemens / DAAD Post Graduate Program
Research Grants 2011 for Graduates
from China**

Deadline: **31 March, 2011**

OPEN CALLS UNDER FP7 AND EURATOM

(regularly updated list available on [EURAXESS Links China website](#))

The following calls for proposals are currently open under the [People](#) programme

Call for proposals	Launched	Deadline
Marie Curie Co-Funding of Regional, National and International Programmes (COFUND)	20 October 2010	17 February 2011
Marie Curie Career Integration Grants (CIG)	20 October 2010	8 March 2011
International Research Staff Exchange Scheme (IRSES)	20 October 2010	17 March 2011

The following calls for proposals are currently open under the [Ideas](#) programme

European Research Council's **Advanced Grant**:

Discipline	Proposal deadline
Life Sciences	10 March 2011
Social Sciences and Humanities	6 April 2011

The following calls for proposals are currently open under the [Capacities](#) programme

[Activities of International Cooperation](#) / 3 Open calls – Deadline: 15/03/2011

The following calls are open under the [Cooperation](#) programme

[Health](#) / 1 Open Call - Deadline: 22/02/2011

[Food, Agriculture and Fisheries, and Biotechnology](#) / 1 Open Call – Deadline: 22/02/2011

[ICT](#) - Information and Communication Technologies / **2** Open calls – Deadlines: 28/04/2011 ; 12/03/2013

[Nanosciences, Nanotechnologies, Materials and new Production Technologies](#) / **2** Open calls – Deadlines: 22/02/2011 ; 31/03/2011

[Energy](#) / **2** Open calls – Deadlines: 22/02/2011 ; 07/04/2011

[Transport \(including Aeronautics\)](#) / **2** Open calls – Deadlines: 22/02/2011 ; 12/04/2011

[Socio-economic sciences and Humanities](#) / **1** Open call - Deadline: 22/02/2011

[General Activities](#) / **1** Open call - Deadline: 22/02/2011

[JTI](#) - Joint Technology Initiatives (Annex IV-SP1) / **1** Open call – Deadline: 03/05/2011

The following calls are open under the [Euratom](#) programme:

[Nuclear Fission and Radiation Protection](#) / **1** Open call – Deadline: 07/04/2011

Editor: Jacques de Soyres, EURAXESS Links China Information officer

Forthcoming Events

(regularly updated list available on [EURAXESS Links China website "Events" section](#))

Field	Date	Location	Title <i>(click for more details)</i>
Nanotechnology (Vulgarization)	22 February 2011	Beijing	Understanding Science seminars: <i>Blood Flow in Color</i>
Internet of Things	24 February 2011	Wuxi	EU-China IoT Summit 2011
3D Computing (Vulgarization)	16 March 2011	Beijing	7th French Café des Sciences: "Vivez vos rêves en 3D"
Cosmetic science (Vulgarization)	18 March 2011	Beijing	8th French Café des Sciences: "L'industrie de la beauté en Chine. Le cas de la Recherche&Innovation de l'Oréal"
Life sciences	23-25 March 2011	Beijing	BIT's the 3rd Annual Congress of Antibodies (ICA-2011)
Life sciences	23-25 March 2011	Beijing	BIT Life Sciences'4 th Annual Protein and Peptide Conference(Pepcon-2011)
Life sciences	23-25 March 2011	Beijing	Vaccine Congress-2011
Physics (Vulgarization)	31 March 2011	Beijing	9th French Café des Sciences: "Le mystère des rayons cosmiques d'énergie extrême sera-t-il résolu en Chine ? "
Technology transfer	14-15 April 2011	Beijing	International Technology Transfer Beijing Conference 2011 (AUTM-Asia 2011)
Life sciences	25-29 April 2011	Dalian	BIT's 1st Annual World Congress of Bioenergy (WCBE-2011)
Life sciences	25-29 April 2011	Dalian	BIT's 2nd World DNA and Genome Day (WDD-2011)
Life sciences	25-29 April 2011	Dalian	BIT'2nd Annual Symposium of Enzymes and Biocatalysis (SEB-2011)
Life sciences	25-29 April 2011	Dalian	BIT'4th Annual World Congress of Industrial Biotechnology (IBIO-2011)
Biology	11-15 May 2011	Shanghai	Asian Congress on Biotechnology 2011 (ACB-2011)
Logistics	17-22 July 2011	Beijing	The 5th International Conference on Operations and Supply Chain Management

Editor: Jacques de Soyres, EURAXESS Links China Information officer

S&T highlights from the media⁸

VOICES AND OPINIONS

Imitation always first rung on innovation's ladder

China wants to build itself into an innovative economy by 2020. This is not only a tough task in the eyes of the Chinese, but also a growing worry among those from the developed countries. Some Westerners claim that China is going beyond its grass-roots copycat culture and engaging in State-sponsored plagiarism, for which the nation's high-speed trains appear to be disgraceful evidence. Others claim that China's patent strategy has nothing to do with innovation, but will become an economic weapon against foreign companies. This is basically tunnel vision. Over the past centuries, the emergence and blossoming of capitalism mainly took place in countries with populations of only tens of millions of people. There was an old belief among Western technology and industrial equipment companies that it would take China decades to catch up with them. The judgment primarily derives from their own experiences of growth, and they tend to neglect the economies of scale effect in China while raising eyebrows at China's unparalleled growth paces. (Further details in source: [Global Times](#))

PEOPLE OF THE MONTH

China Announces 2010 International Science and Technology Cooperation Award

The Chinese government conferred its International Science and Technology Cooperation Award to five foreign scientists for their contributions to China's science and technology development on January 14, 2011. Three scientists from Germany -- Albert Hermann Gerhard Boerner, Klaus Toepfer, Folker Helfrid Wittmann -- Roger M. Bonnet from French and GAO Zhongxue from the USA, were honored. Among them, Professor/Dr. Boerner and Professor Roger M. Bonnet were recommended by Chinese Academy of Sciences (CAS). Professor/Dr. Gerhard Boerner, a senior scientist of Max-Planck Institute for Astrophysics and a professor of Munich University, is a world leading expert on high energy astrophysics and cosmology. In the 1990s, Professor Boerner creatively proposed to establish the Max-Planck Partner Groups (MPPGs) in CAS institutes, which has resulted in setting up more than 20 MPPGs in almost all disciplines. Most of the MPPGs are extremely successful. As the German partner, Prof. Boerner helped to establish the first MPPG in Shanghai Astronomical Observatory in 2000, which has been very successful. In 2005, he helped to establish the second MPPG in Shanghai Astronomical Observatory. The great success achieved by the astrophysical MPPGs has enormously raised the standards of research in galaxy formation and cosmology at Shanghai Astronomical Observatory and in China, and has produced significant international influences in this field. Professor

⁸ With the aim to feature information on China's S&T developments, the Delegation of the European Union to China cannot authorise the reproduction of news items taken from other publications, nor is it responsible for the authenticity of the selected content. Anyone wishing to reproduce articles is advised to contact the originating source of the relevant news item.

Roger M. Bonnet's early scientific work focused on solar physics. As early as in 1963, he launched the first French space astronomy experiment on board the Véronique rocket from Hammaguir in the Sahara. Professor Bonnet has contributed greatly to the development of international cooperation with China in space related areas. The CAS and European Space Agency (ESA) partnership of collaboration was initiated by him during his term of office as the director of ESA. With his support, China has also taken an active role in the International Council for Science (ICSU) Committee of Space Research and other international space science organizations. The awards were conferred at a ceremony held for China's annual national science and technology awards in the Great Hall of the People. The International Science and Technology Cooperation Award was launched in 1994 by the State Council. Up to 10 foreign individuals and organizations each year can receive the award. (Source: [CAS](#))

Conference on National S&T Award Opens in Beijing

The Conference on National Scientific & Technological Award, sponsored by the Central Committee of the Communist Party of China (CPC) and the State Council, was held in Beijing on January 14, 2011. HU Jintao, WEN Jiabao, LI Changchun, XI Jinping, LI Keqiang and other party and state leaders attended the event and conferred awards to the laureates. Vice Premier LI Keqiang presided over the conference. Mme. LIU Yandong, member of the CPC Central Committee and the State Councillor read out the Decision of the State Council on the State S&T Award 2010. President HU Jintao conferred the Top State S&T Award to SHI Changxu and WANG Zhenyi. Prof. SHI Changxu is a renowned expert on material sciences, Academician of the Chinese Academy of Sciences (CAS) and the Chinese Academy of Engineering, Special Advisor to the National Natural Science Foundation of China, Honorary Director of the Institute of Metal Research of CAS, and tenured professor of the Ruijin Hospital affiliated to the School of Medicine under Shanghai Jiaotong University. Prof. WANG Zhenyi is a renowned expert on hematology. Other awards conferred were the State Natural Sciences Award, State Technological Invention Award, State Scientific and Technological Progress Award and State International Science and Technology Cooperation Award. Premier WEN Jiabao addressed the event on behalf of the CPC Central Committee and the State Council. Prof. SHI Changyi spoke on behalf of the laureates. A total of 356 laureates received the 2010 national S&T awards which featured 2 Top State S&T Awards, 30 State Natural Sciences Awards (first prize unclaimed), 46 State Technological Invention Awards (2 first prizes and 22 second prizes), 273 State Scientific and Technological Progress Awards (3 top prizes, 31 first prizes and 239 third prizes), and 5 State International Science and Technology Cooperation Awards. (Source: [MOST](#))

'Science cop' awarded 'righteous person'

A Chinese writer famous for debunking bogus research was recognized Thursday with a "righteous person of the year in China" award. A leading Chinese legal news website honored Fang Shimin - better known by his pen name Fang Zhouzi - for his work exposing fraud. The website of the Procuratorial Daily, the official newspaper of China's Supreme People's Procuratorate, conferred the Righteous Person of the Year Award. The organizing committee of the award called Fang a fearless fighter "fastidious" about facts who "constantly throws daggers" at academic fraud and the fabrication of academic credentials. Fang hit Chinese headlines several times over the past year. Fang's work prompted a heated debate about honesty and integrity in China. Fang is a native of east China's Fujian province. He received his Ph.D. in biochemistry from Michigan State University in the United States in 1995. (Further details in source: [China.org](#))

CAS Announces Award for International Cooperation in Science and Technology for 2010

Chinese Academy of Sciences (CAS) conferred its Award for International Cooperation in Science and Technology for 2010 at CAS' annual conference held January 25-27, Beijing. Professor Aikichi Iwamoto from Japan, Professor Stephen Porter from USA and Professor G. Q. Max Lu, a Chinese Australian shared this award. Established in 2007, the CAS Award for International Cooperation in Science and Technology is to honor those eminent international experts with outstanding contributions to China's global cooperation in science and technology. It is aimed to encourage more efforts in this respect that will lead to the enhancement of CAS innovation capacity and the improvement of its research performance, education and training, management and reputations among the international community. (Further details in source: [CAS](#))

SCIENTIFIC ACTIVITIES

Health

3rd International Conference on TCM Modernization Held

The 3rd International Conference on the Modernization of Traditional Chinese Medicine (TCM) was held in Chengdu City from Nov. 25 to 26, 2010. Participants included over 2,000 representatives from 21 countries such as the US, Britain, Germany, Netherlands, Japan, South Korea, Laos, and Myanmar etc. With the theme of "TCM Innovation and Development", the conference was divided into three sessions: innovation forum, themed activities, and science and technology exposition. Over 1,300 theses were submitted; the sessions and themed activities featured the latest TCM achievements in the areas of policies, resources, science and technology, public health, education, production, etc. Over 60 intents of cooperation were identified during the matchmaking event for biomedicine industries. The conference is held every three years with an aim to promote the development and application of TCM and other traditional medicines in the interest of mankind. (Further details in source: [MOST](#))

Hong Kong Researchers Generate New Human Stem Cells

Hong Kong researchers generated animal product-free new human stem cells which can be derived into different human cell types and tissues, providing insights for clinical applications of stem cell therapy, according to the University of Hong Kong which made the results public. Researchers from the university's faculty of medicine recently generated new human induced pluripotent stem cells (hiPSCs) by reprogramming human skin cells into embryonic stem cell-like state with the use of a special enzyme inhibitor. The span-new stem cells, with the absence of animal products such as live mouse cells and serum, eliminated the problem of potential immune rejection, bringing a better prosperity for clinical application. Besides, ethical issue related to human embryonic stem cells could be avoided. (Further details in source: [CAS](#))

Chinese Academy of Sciences initiates "trailblazing" stem-cell research project

The Chinese Academy of Sciences (CAS) announced it has initiated a "strategic, trailblazing" research project on stem cells and regenerative medicine. The project mainly aims to remove the bottlenecks China is confronted with in stem-cell research, the CAS said in its 2011 work meeting in Beijing. The

project will focus on the research of stem-cell regulations, core mechanisms for stem-cell therapies, and other key technologies, it said. The CAS said it would establish a world-class research platform and base for stem-cell and regenerative medicine research through the project. The stem-cell research project is one of eight such trailblazing projects of the CAS. The others include projects on nuclear fission, space science and clean energy. (Source: [Xinhua net](#))

Food, agriculture and fisheries, biotechnology

IOB Celebrates the Release of Drupal 7 in China Region

Researchers from research institutes, universities and Chinese Drupal Community got together in the Institute of Botany, Chinese Academy of Sciences (IOB) on January 8th to celebrate the release of Drupal 7 in China region. IOB has applied Drupal for information system in several projects, such as CVH(Chinese Virtual Herbarium) and BHL(Biodiversity Heritage Library) China Node and achieved lots of experiences in using this system. Besides, other platforms (EOL China, CFH and Chinese Virtual Botanical Garden) are implemented by techniques, including Ruby on Rails and.NET. (Further details in source: [CAS](#))

Information and communication technologies

China officially launches own online mapping service

China formally launched its self-developed Internet mapping service on 18 January with added features and improved services after the website underwent over three months of trial runs. Called Map World, the product enables viewers to see 3D versions of flat maps in addition to providing regular mapping and locating services as Google Earth does. "The running of Map World's beta version has been going very well," Min Yiren, deputy director of the State Bureau of Surveying and Mapping (SBSM), said at the launch ceremony in Beijing, adding that over 30 million users have tried the service, which is available on tianditu.cn, the map's website. Map World is provided by the National Geomatics Center of China under the SBSM. Companies need to pay to use the service for commercial purposes, but the public can use it for free. (Further details in source: [Global Times](#))

5th Seminar on RFID Technology Development Held

The 5th Seminar on RFID Technology Development, sponsored by MOST, the Ministry of Industry and Information Technology, and Shanghai Municipal Science and Technology Commission, was recently held in Shanghai. With the theme of "Build indigenous innovation, promote clusters, and support the application of the Internet of Things", the seminar discussed the development strategy and innovation modes of RFID during the 12th Five Year Plan period. Discussions were also held on the trend, market scale, technical standards, and business patterns of RFID. RFID is one of the key technologies for the Internet of Things, and it has been demonstrated at the Beijing Olympics and the Shanghai World Expo. (Source: [MOST](#))

Environment (including climate change)

Applicable Technology Manual on South-South Cooperation to Address Climate Change Issued

The Applicable Technology Manual--South-South Cooperation on Science and Technology to Address Climate Change (1st Edition in Chinese and English) was issued in Cancun, Mexico during the United Nations Climate Change Conference from Nov. 29 to Dec. 10, 2010. The Manual was jointly compiled by the Department of International Cooperation of MOST and China Science and Technology Exchange Center (CSTEC) with a foreword by MOST Vice Minister CAO Jianlin. A number of applicable technologies are outlined in the Manual, covering a wide spectrum of fields such as renewable energy, agriculture, forestry, utilization of waste, water resources, resources and environment, desertification prevention and control, energy-efficient building, industrial energy conservation and emissions reduction, civil and commercial energy conservation and emissions reduction, disaster reduction and prevention, and health. Most of these technologies have been successfully applied or demonstrated in different developing countries. An English website for S&T cooperation in this field (<http://www.cstec.org.cn/en/>) has been set up by CSTEC, and the Manual is available for free download. In the foreword of the Manual, VM CAO pointed out that China stood ready to cooperation with other developing countries in science and technology to address climate change. He hoped that the Manual could facilitate cooperation among developing countries in research and development, technology transfer and diffusion, technology training, and capacity building so as to improve the ability of the South in addressing climate challenges and promote common development. (Source: [MOST](#))

Antarctic Expedition for Iron Hypothesis

During China's 27th Antarctic Expedition, Chinese and U.S. researchers have for the first time conducted a survey to understand the spatial distribution of iron and associated input flux, in an effort to study the carbon cycle across the Southern Ocean, and the scientific basis of the so-called "iron hypothesis". During the Expedition, researchers made field sampling, on-site analysis, and systematic investigation of the spatial distribution of iron across the Southern Ocean, using advanced sampling equipment and analytical instruments aboard the "Snow Dragon" expedition boat, and made a quantitative assessment of their input flux in the Southern Ocean based on the selected key nutrients. (Further details in source: [MOST](#))

China-Germany Seminar on Environment Technology and Ecology Held in Beijing

The China-Germany Seminar on Environment Technology and Ecology was held in Beijing on Dec. 6, 2010. It was jointly sponsored by the Department of International Cooperation of MOST and the German Federal Ministry of Education and Research and organized by the Administration Center for China's Agenda 21. Representatives from governments, enterprises, research institutes and universities attended the event. The seminar aimed to strengthen exchanges between China and Germany on sustainable development, and tap cooperation potential in the areas of climate change, water and land resources management, resources efficiency, etc. (Source: [MOST](#))

Energy

Chinese Made Flexible HVDC

The flexible HVDC unit, developed by China Electric Power Research Institute, was packed up and loaded on January 3, 2011 for shipping to a Nanhui wind farm in Shanghai, after passing a range of compliance tests in line with international and domestic industrial standards. The event makes China the third country in the world able to design, test, commission, and manufacture a flexible HVDC unit, after ABB and Siemens. China Electric Power Research Institute started to work on flexible HVDC theory and associated equipment since December 2007. Researchers developed the key proprietary technologies to manufacture the flexible HVDC unit based on IGBT turn-off device, along with a mass production capacity. The HVDC unit delivered to the Nanhui Wind Farm makes a major node in the grid. The development marks a cornerstone in building China's smart grid system. The theoretical study of the system and associated engineering application is also the first instance in Asia. (Source: [MOST](#))

World's First Solar Power Simulator

Thanks to its 5-year painstaking efforts, Laboratory of Solar Thermal Power Generation, part of Chinese Academy of Sciences Institute of Electrical Engineering, has recently rolled out the world's first solar thermal power plant simulator. The simulator is made up of a computer and simulation programs. The simulation programs present a STAR-90 simulation platform, an operator's interface, and modeling components. The modeling components are able to work on sunlight collection, heat absorbing, energy storage, and conventional power generation. A full-fledged power station can be modeled by connecting a range of sub-models for mass, energy and information flows. The simulation system is built on a physical experimental solar thermal power station in Badaling, capable of a range of modeling missions, including heliostat field, thermal heat sink, multi-phased thermal storage, auxiliary boiler, water supply system, and on-site electrical/thermal control, allowing a full multiple-task operation. In addition, the system can be added with parabolic trough solar collector module, air heat sink module, and a variety of heat storage modules, to simulate a trough power plant, or a solar Brayton cycle system. The development will facilitate the commercial application of solar thermal power generation in China, playing an important role in preparing solar power generation solutions, process optimization, design, and training. (Source: [MOST](#))

Enhanced Nuclear Energy Technology

Chinese scientists have recently landed a major breakthrough in mastering the technology to build the fourth generation nuclear energy system, which makes China's experimental fast reactor becoming critical possible. The development makes China the eighth country in the world that has mastered the fast reactor technology. Fast neutron reactor is an application of fourth generation nuclear power technology. The closed nuclear fuel cycle it is designed with enjoys a raised uranium utilization efficiency by 60% or more, compared with the second and third generation nuclear power plants (the existing nuclear power plants registered a uranium efficiency only at 1%, implying that the advancement applauds for a 60-time enhancement.) (Source: [MOST](#))

China, U.S. clean energy cooperation forum kicks off in U.S.

The Second U.S.-China Strategic Forum On Clean Energy Cooperation started on 18 January, bringing together government leaders, business executives and experts from both countries to discuss an array of energy collaboration topics. Constructive cooperation between China and the United States in the clean energy field could serve as a role model for bilateral ties in different areas and for other countries, said John Thornton, chairman of the Washington-based Brookings Institution, a

co-organizer of the forum. The two-day gathering includes panel discussions and working group meetings under the theme of U.S.-China relations in the next decade. The first session of the forum took place in Beijing in 2009. Close bilateral cooperation in clean energy would be conducive to trust building between the two nations and for the future generations, U.S. Ambassador to China Jon Huntsman told the forum. The cooperation on clean energy development could help boost employment and create vast business opportunities in both countries. This effort was also crucial to a green future for both countries and the world, Huntsman said. Zheng Bijian, chairman of co-organizer China Institute for Innovation and Development Strategy, told the forum China-U.S. practical cooperation in clean energy surely could expand and deepen the convergence of interests. "I believe the discussion at this forum will not only contribute to the global efforts to address the challenge of climate change, but also help promote low-carbon development and energy security of the two countries," Zheng said. (Source: [Xinhua net](#))

Transport (including aeronautics)

China's Homemade Jet ARJ21-700 Starts Cold-Weather Trial

The country's first homegrown regional jet ARJ21-700 is being tested to see how well it performs in the extreme cold of Inner Mongolia Autonomous Region, China's flight testing establishment said. The 78- to 90-seat aircraft completed a 3-hour flight from Xi'an in Shaanxi Province to Manzhouli City, Inner Mongolia, Thursday, according to the jet's manufacturer -- the Commercial Aircraft Corporation of China (Comac). A spokesman with the company confirmed the jet's cold-weather trial would continue for a week to test the performance of its hydraulics and other functions in Manzhouli, where the daily average temperature is 30 below zero. The jet has a maximum flight range of 3,700 kilometers and maximum altitude of 11,900 meters. So far, ARJ21-700 has completed more than 900 hours of tests during 400 trial flights since November 2008, when the plane made its first trial flight in Shanghai. Comac is working to get U.S. Federal Aviation Administration (FAA) certification. If achieved, the ARJ21 will be the first Chinese commercial aircraft to receive U.S. approval. China's AVIC International Holding Corporation signed a deal with Comac to sell 100 ARJ21-700 baseline models overseas at an air show held last November in Zhuhai, Guangdong Province, which brought the number of the jet orders to 340 in total. (Further details in source: [CAS](#))

China may lead in electric vehicle race

China could lead the race to roll out electric vehicles and will deploy new transport technologies faster than the United States, according to a report by Accenture that compares the two countries. But the United States could lead a global biotechnology-based agricultural revolution that will generate a greater range of biofuel breakthroughs. The report, *The US and China: the race to disruptive transport technologies*, concludes that China's State-backed focus on electric vehicles (EVs), its domestic supplies of lithium and current battery production capability will give it a competitive advantage over the US in EVs. The market-led approach of the US will result in a more gradual development of new technologies. However, the US will be better placed to create innovation across many platforms (advanced combustion engines, electric and advanced biofuels) that can be integrated into the existing fuel-supply infrastructure. (Further details in source: [China Daily](#))

Report: China Still in Early Stages of Development

Holding a middle ranking among developing countries, China is still a country at an elementary stage of development. It is expected to complete the first modernization by around 2015, which means it will catch up the same level developed countries reached in 1960, according to a report from the Chinese Academy of Sciences on Jan. 16. In 2005, there were approximately 20 developed countries among the countries that have a population of more than 1 million, according to the report's analysis of more than 100 countries across the world. More than 20 countries, including the United States, have entered the second modernization period, which marks the shift from an industrial civilization to a knowledge-based civilization, while more than 90 countries, including China, are still undergoing the first modernization, which is the shift from an agricultural civilization to an industrial civilization, according to the report. The researchers who drafted the report found that for technological advances, developed countries mainly relied on innovations, and "innovation accounted for 80 percent, while learning took up 20 percent." In moderately developed countries, innovation accounted for 40 percent of technological advances and learning took up 60 percent. In elementary developed countries, innovation only accounted for 20 percent of technological improvements. In 2008, China ranked 69th among the 131 countries across the world after it had completed 89 percent of the first modernization goal, according to the report. China has achieved benchmarks in six indicators for its modernization index, including the ratio of doctors per person, the average life expectancy, infant survival rate, the adult literacy rate, the proportion of added value of agriculture and the college attendance rate. But it has failed to reach the standard of per capita income, the proportion of the agricultural labor force, the proportion of added value of services and the proportion of urban population, according to the report. "China has more population than that in all developed countries, which exerts severe impacts on its completion of modernization," said He Chuanqi, an expert from the Chinese Academy of Sciences. The report made three suggestions. The first was to build a prosperous society to eliminate absolute poverty in 10 years. Second, set up the Chinese Academy of Science and Technology for Development to provide a public technology platform for Chinese enterprises. The third is to establish the China Modernization Research Institute to provide scientific support for China's modernization. "At present, China is still an elementary developed country," the report concluded. The China Modernization Report 2011 was published by the Chinese Academy of Sciences after 10 years of research and studies. (Source: [CAS](#))

Space

Vehicle Mounted Wind Lidar

Researchers at CAS Space Science and Applied Research Center collected three-dimensional wind field, temperature, and sodium atom density data ranging from 80km to 105km using a vehicle mounted wind/temperature lidar developed by the Center from December 28 to 30, 2010. This is the first sodium layer wind/temperature laser radar in the world. Researchers have worked out solutions to a range of key technologies, including saturated sodium fluorescence spectroscopy, laser frequency stabilization, laser frequency modulation, pulse laser amplification, and vehicle mounting platform. They received in the mid-October 2009 fluorescent signals from the top layer of middle sodium layer in the laboratory. Researchers completed the installation and commissioning of the vehicle mounted system at a space environment field observation station under the Chinese Academy of Space

Environment Space Center in Langfang in December 2010. On December 28, 2010, the vehicle mounted lidar system emitted laser in three directions, and received fluorescent signals from three 1-m telescopes, which produced three-dimensional wind fields and temperatures. (Source: [MOST](#))

Chinese astronaut performs well in Mars-500 project: chief

A Chinese participant has performed well in the Mars-500 project, a simulated space flight to Mars, the project's chief said. Boris Morukov, who is also deputy director of the Medical and Biological Studies Institute of the Russian Academy of Science, told Xinhua on the 233rd day of the experiment that the Chinese participant, Wang Yue, has displayed a strong sense of teamwork and perseverance while conducting his research. Mars-500 was launched in Moscow on June 3, 2010. A six-member international team, which consists of three Russians, a French, an Italian and a Chinese, has taken part in the 520-day trip that simulates a 250-day trip, a 30-day stay on the "surface" of Mars and a 240-day return flight. (Further details in source: [Xinhua net](#))

Construction of world's largest radio telescope begins

Workers in southwest China's Guiyang Province have started leveling the ground upon which a five-hundred-meter aperture spherical telescope (FAST) will stand, local authorities said. Located in Pingtan County, the telescope will be the world's largest, the size of 30 football fields. (Further details in source: [China.org](#))

People

Chinese Premier welcomes foreign talents working in China

Chinese Premier Wen Jiabao invited more foreign talents to continue their careers or start businesses in China, pledging better conditions for them. During a seminar with more than 20 veteran foreign experts at the Great Hall of the People a week before the Chinese New Year, Wen thanked the foreign friends for their contributions to China's achievements in 2010. Wen said 2011 is a new starting point for China's modernization, as the country implements its 12th five-year plan for economic and social development. "China's development is much more associated with the world and the supply of talents than before," Wen said, adding that China will adopt a more open policy to attract overseas experts. Last year, foreign experts made more than 300,000 visits to China, according to Ji Yunshi, general director of the State Administration of Foreign Experts Affairs. (Source: [People](#))

Research infrastructures

China's Astronomical Platform in South Pole

China's first smart astronomical platform, jointly developed and manufactured by Southeast University and China Antarctic Astronomy Center, heralded a successful run on January 8, 2011 at the Kunlun Station in the South Pole. The platform is designed to accommodate the tough environment of Dome A area where the Kunlun Station sits, featured with extreme coldness, low pressure, and oxygen deficiency. The platform will make power supply and technical support available for the operation of astronomical instruments, space watch, and data collection/storage/transmission. The platform is

equipped with the power generators able to produce 1.8 kilowatts of electricity per unit, scalable up to 6 units for grid operation. The generation units can be operated in an unmanned manner, with its output and automation performance exceeding the peers. The platform is operated remotely by a homeland based ground control, and the data collected will be received by a domestic receiving center in the same manner. The platform's successful operation owes the credit to the strong support of State Oceanography Bureau Polar Expedition Office and China Polar Research Center. (Source: [MOST](#))

World Influence of Chinese Academy of Sciences Rising

In the 13 years since the Chinese Academy of Sciences (CAS)'s Knowledge Innovation Project was first implemented, the CAS's technological innovation ability has been greatly improved. Its international academic influence and status in the world compared to similar research institutions has also significantly improved, and it has become a national research institution with internationally important influence, according to the CAS's 2011 work meeting held in Beijing on Jan. 25. The evaluation report of the CAS Knowledge Innovation Project shows that compared to the world's 86 national academic research institutions, CAS scored in the top 10 in 14 subjects. Of those, in eight subjects, including chemistry, materials science, mathematics, engineering, computer science, environment and ecology, earth science and physics, CAS was ranked in the top five. (Source: [CAS](#))

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About this newsletter

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