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EURAXESS LINKS CHINA NEWSLETTER

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This month, **EURAXESS Links China Newsletter** features information on several past and coming EURAXESS Links China events, reflecting the continuous development of this new networking and information platform.

The first “**Sectorial Meeting**” will be organized in the field of law on April 30 at the EU Delegation in Beijing and we warmly invite European legal researchers and experts to attend this meeting, which should be a good opportunity for people of the same field to network and exchange on issues of common interest. We are open to suggestions in order to organize or co-organize similar “Sectorial Meetings” in other fields: ICT, biotechnologies, aeronautics etc. Don’t hesitate to share your suggestions with us.

Another coming event organized by the EU Delegation S&T section and EURAXESS Links China is the “**Workshop on Intellectual Property in EU-China research cooperation**”. Scheduled for May or June, this workshop should provide an excellent frame to share information and experiences among researchers and research leaders on how research results can be dealt with when conducting research with Chinese partners. A survey to identify the most relevant and exact content to give to this workshop has been launched. We thank those of you who have already answered it and invite the others to send us completed questionnaires back to jacques.desoyres@euraxess.net.

Beside announcements and calls for proposals, including new Marie Curie calls for international fellowships, this edition features several EU-China scientific events which took place during March, including the Workshop on Clean Production Technologies, which could be a first step towards a closer EU-China cooperation in this increasingly important area, and the Workshop on Nuclear Fission, which has built on the already intense Sino-European collaboration in this field.

March saw the 11th National People's Congress (NPC) third session in Beijing, which adopted the report on the work of the government by Premier Wen Jiabao. This edition’s **In Focus** article takes the opportunity of this major political event and of its outcomes related to science and research, to look at China’s S&T development and at its central role in the global development of China towards a more innovation driven economy.

Finally, the **S&T Highlights from the Media** features the NPC's session as well as scientific news on the endorsement by China of the Copenhagen treaty and the opening of China's first low-carbon R&D center in Shanghai.

We wish you a pleasant read of this edition of **EURAXESS Links China Newsletter** and thank this month's contributor to the "**Researcher's Voices**" section for his article about **green manufacturing**. Articles you would like to see published in the next edition should be sent to Jacques.desoyres@euraxess.net. Comments or questions about this newsletter can be sent to the same email address.

Best wishes,

Georges Papageorgiou

Head of the S&T Section of the [EU Delegation to China](#)

About this newsletter

EURAXESS LINKS CHINA NEWSLETTER is a monthly electronic newsletter that 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.

Editor: Jacques de Soyres, Information Officer of EURAXESS Links China

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Major EU-China S&T contacts and relations

Clean Production Technologies Seminar

This seminar, which took place in Beijing on the 17th and 18th of March, was co-organized by the European Commission Directorate General for Research and Chinese Ministry of Science and Technology to provide an opportunity for Chinese and European experts to exchange information about the situation of research in the field of clean production technologies (clean mining, low carbon emission production processes, green chemistry) both in China and in Europe.

The event went extremely well with high quality exchanges in each specific issue addressed. Several contacts have been established between European and Chinese participants.

This workshop acted as a positive initiative to promote cooperation between Europe and China in this increasingly important and strategic field of clean production technologies.



Clean Production Technologies seminar in Beijing

China-Euratom Nuclear Energy Cooperation Workshop

This 3 days workshop took place in Beijing from March 22 to March 24.

A call for proposals on nuclear fission and radiation protection includes co-funded research topics with mandatory involvement of China in the consortium was published under the FP7 Euratom programme in November 2009 and closed beginning of April 2010. The three topics of cooperation with China within this call were:

cooperation in nuclear education and training (Euratom contribution 0.5 million Euros);

reliability of programming for automation (Euratom contribution 0.5 million Euros);

SCWR fuel qualification test (Euratom contribution 0.5 million Euros)

The jointly identified topics targeted at China are the result of the continuous discussions held between the European Commission and the China Atomic Energy Authority (CAEA) since 2007.

The China-Euratom Nuclear Energy Cooperation Workshop is the latest to date joint initiative by the European Commission and CAEA to promote cooperation between China and Europe in the nuclear fission field. The workshop provided an opportunity for further information on research priorities between China and the EU and for an exchange of views between Chinese and European experts on practical collaboration.

SPRING Project kick-off event

The SPRING EU-China cooperation project had its kick-off event on Sunday, March 28 in Beijing.

SPRING is a supporting action under EU FP7 Environment theme, with the main objective of creating and providing a solid basis for future EU-China collaboration in environmental research.

SPRING will identify common needs and opportunities, analyse potential topics of research cooperation and initiatives, map competences and potentials of Chinese research organisations and major infrastructure, investigate strategic development plans and initiate roadmaps for future collaborations. SPRING also

intends to analyse the hurdles that need to be addressed to enable better research engagement by EU researchers to China, and vice versa. It will improve the visibility of research initiatives and strengths of Chinese regions to a wider audience in Europe. The project will create and maintain a web portal that will serve as a bilateral contact point, showcasing past and present projects, and also update strategic plans for EU-China cooperation. The project will be carried out by a consortium of the following partners:

- University of Exeter (UK);
- Applied Research and Communications Fund (Bulgaria)
- Center for International Climate and Environmental Research - Oslo (Norway)
- Tsinghua University
- Chinese Research Academy of Environmental Sciences
- China Institute of Water Resources and Hydropower Research
- Tianjin University
- University of Bristol
- Beijing University

“EU-China S&T cooperation, opportunities for researchers” conference at Sun Yat Sen University

This conference, took place on Monday 15 March as part of Sun-Yat-Sen University Business School 25th anniversary celebrations.

The conference has been very well attended by over 80 researchers, mainly from Guangzhou’s and Shenzhen’s Universities and CAS Institutes, including European researchers active there, and several representatives of European member states consulates.

Mr. Georges Papageorgiou’s, S&T Minister Counselor at the [EU Delegation to China](#), gave a presentation of the European Commission’s research policies , of its

main instrument, the Framework Programme, and of the opportunities offered to Chinese research teams. He then gave an introduction to the newly created EURAXESS Links China network, The session was met with great interest from the audience. Many questions were asked regarding these topics and in particular about the various European research programs and conditions for participation.

We take this opportunity to thank all those who helped making this conference a success and the Sun Yat Sen University School of Business for its hospitality.



Mr Papageorgiou’s conference at Sun Yat Sen University

Mr Papageorgiou also met with Mr Wei Minghai, assistant to the president of Sun-Yat-Sen University and director of office of international cooperation, who expressed a high interest in developing stronger cooperation with the EU particularly on establishing a “European” school in Guangzhou, possibly in Sun Yat Sen University, a well-known university for its excellence in Medical Sciences, and with Mr Chen Xin, deputy director general of the Guangzhou S&T commission, who expressed his wish to see more European businesses in Guangzhou in particular in the “clean energy” sector.

Roundtable on ICT within FP7 held in Hong Kong

A “Roundtable on the EU’s Information and Communications Technologies Framework Programme: Opportunities for Researchers in Hong Kong & Macao” took

place in Hong Kong Science Park Convention Hall on March 24.

Jointly organized by the Office of the European Union to Hong Kong & Macao and the Hong Kong Science and Technology Parks Corporation (HKSTP), this meeting provided participants with a comprehensive understanding of Europe's research Framework Programme 7 (2007 – 2013) with particular focus on the ICT programme, open calls covering a wide range of ICT domains, and international cooperation objectives and opportunities for Hong Kong organisations/companies to engage in research projects with European partners.

Mr. Christophe Forax, European Commission's Counsellor for ICT and Audiovisual for Southeast Asia, gave the main presentation. Successful FP7 partners from Hong Kong also shared their experience with the audience and EURAXESS Links China officer Mr Jacques de Soyres gave an overview of the global China-EU S&T cooperation and introduced EURAXESS Links China to the audience.

In Focus

Looking at China's S&T Development Behind and Ahead: From Capacity to Innovation

From 5 to 14 March 2010, the 11th National People's Congress convened its third session in Beijing, which adopted the report on the work of the government by Premier Wen Jiabao. As China's main political event of the year, the NPC's sessions always bring their share of information both on what has been accomplished and on what the priorities are for the future, in all policy areas, including science, technology and research in general. As we are now entering the last year of China's 11th five-year plan for the national economic and social development, with the 12th five-year plan to start in 2011, this year's NPC's session was perhaps even more significant in this regard.

The role of S&T in the Chinese economic development

China's S&T development is inextricably linked with the country's rapid economic development in the past 30 years.

China is now the second largest economy in the world, and one of the fastest growing economies, with an annual average GDP growth rate of 9.8% in the past three decades (1978 – 2008). However China's development faces many challenges.

Despite the dramatic GDP growth, per capita GDP remains very low, lagging behind the 100th in the world. Endogenous momentum and innovative drive of the economy remains insufficient and weak. Disparities and inequalities emerged and expanded between the rural and urban areas, and between different regions. Sustainability of environment and resources in development has become an issue that needs to be urgently addressed. More efforts are needed to improve the welfare and livelihood of the population.

Hence, great challenges exist in order to reshaping the economic growth without jeopardizing its pace. While predicting a growth GDP rate of 8% for 2010, Premier Wen Jiabao's report also designated economic growth pattern transformation and economic restructuring as the overarching priorities for the government's work in the coming year. And S&T are expected to contribute their share to this restructuring of the economy.

The importance of the role assigned to S&T is reflected in the long-term goals set by the Chinese government for the national economic and social development. According to these goals, by 2020, China is expected to have built an "all-around Xiaokang" society and be an innovative country, for which, among other indicators, the contribution by S&T in the national economy should reach 60% (compared to 39% in 2006).

Looking back at China's S&T Development

At par with its economic development, China's S&T experienced remarkable progress through the decades in particular since 1978 when the economic reform and opening-up policy was adopted. China's government investment in S&T has increased by over 40 times from 1978 to

2008. OECD data show that China now ranked sixth (3rd in purchasing power parity) worldwide in volume of Gross Expenditure on R&D (GERD) taking up 4.8% of the world total expenditure on R&D. China's GERD reached 543.3 billion yuan in 2009, while its "R&D on GDP" ratio reached 1.65% (1% in 2000, 1.23% in 2004), and is projected to reach over 2.5% by 2020.

A populous country, China's total human resources in S&T reached 42 million by the end of 2005, the largest in number in the world, and the R&D personnel reached 1.9 million full time equivalent, the second largest after the US. The increase in the number of people involved in research in China is accompanied by the dynamic flow of both Chinese and foreign researchers to and from China, reflecting the increasingly active engagement of China in the international research community. An increasing internationalization of Chinese research that is also shown by a growing involvement in international research cooperation at bilateral and multilateral levels, such as China's active participation in the EU's Framework Programme for Research and Technological Development, or now the setting up of joint research projects with the EU.

Besides these figures regarding research investment and capacities, China's S&T development is also revealed by the figures indicating a growth in research outputs. Thomson Reuters data indicated that China's research publications more than doubled between 2004 and 2008 and quadrupled between 1999 and 2008. By the measure of annual output, China surpassed Japan, the UK and Germany in 2006 and now stands second to the USA. The invention patents granted to China in the total world share grew rapidly too, from 6.3% in 2003 to 9.6% in 2007 (the 4th in the world).

However, in spite of its rapidity, China's S&T development is still at an initial phase of growth¹. Its gross R&D expenditure, even if already significant, is still far behind those of the United States and Japan and figures indicating big volumes in terms of investments or publications are not to be mistaken for indicators of China's scientific influence in the international R&D arena, as reflected by the relatively low citation rate of Chinese publications. A study by China S&T Information Institute under the Ministry of Science and Technology indicated that despite the dramatic improvement of China's S&T, its impact still remains low. According to the study "there is still a long way to go for China to catch up with those countries traditionally strong in scientific power."

Looking ahead: the growing importance of S&T in China's development

The overall target set forth by the Outline for mid-and-long term S&T development plan is that by 2020, R&D input intensity (R&D input on GDP ratio) should reach 2.5% of GDP, S&T "contribute to 60%" of this GDP, and "dependence on foreign technologies account for less than 30%". The strengthening of indigenous innovation capacity and of the capabilities of S&T in promoting economic and social development as well as in securing national security are a key element in China's global mid-term to long-term strategy to build an "all-around Xiaokang society". China also ambitions to attain a strong S&T power (by world standards) by 2050.

It therefore came as no surprise to see S&T development be emphasized in Premier Wen Jiao Bao's presentation of the government's work report, both as an important aspect of the overall macro-economic measures (1) and as one of the eight main areas of governmental action for 2010 (2).

¹ Arvanitis and Qiu, 2004, *Embedding society in science & technology policy: European and Chinese perspectives*

Turning Chinese economy in an innovation driven economy through R&D...

Investment in independent innovation, restructuring, energy conservation, emissions reductions, and ecological improvement was one of the main components of the Chinese government's macro-control measures taken in 2009 in order to address the economic crisis. In 2009 the S&T central government expenditures reached 151.2 billion yuan (a 30% increase year on year and 3,4% of the central government's total budget), mainly invested in those key areas of S&T development, and the rise will continue in 2010 with a budget of 163 billion yuan for central investment in S&T, an 8% increase compared to 2009 (and 3.5% of the central government's total budget).

This massive increase of investment including in research (both basic and applied), in the promotion of technological upgrade through innovation in the Chinese industries and in the setting up of regional innovation system to integrate industries, education and research capacities illustrates very clearly China's global strategy of restructuring its economy towards an innovation driven one.

The development of the clean energies industry and of third generation mobile telecommunication or the launch of ChiNext stock market, a new tool to finance innovation and growth enterprises, are concrete examples of how this strategy was implemented in 2009 and previous years.

In 2010, new and strategic industries such as new energies, new materials, energy saving and environment protection, biomedicine, information networks and high end manufacturing should be nurtured and supported with further investment and policy instruments. Emphasis will also be put on the R&D of internet of things and on clean energy technologies (including low carbon, energy saving and efficiency, renewable energy technologies).

In foreign trade, emphasis will be put on opening up new markets, and adjusting trade structure and balance. Exports of new and high technology products and imports of advanced technology and equipment will be increased and the Chinese government intends to urge developed countries to ease export restrictions on new and high technology products to China.

Foreign investment will be encouraged in high-end manufacturing, new and high technology industries, modern service industries, and new energy and energy saving and environment protection industries. R&D cooperation between Chinese and foreign enterprises will be encouraged. Link between "attracting investment" and "attracting talents" will be promoted.

Finally, agricultural S&T innovation and application will be promoted, with a focus on breeding improved crop varieties. Premier Wen Jiabao also mentioned social sciences in his presentation, announcing that "philosophical and social sciences will be supported to enrich the country's cultural progress" and showing China's intention to become a research power in all fields.

...and "empowering the nation through talents"

As one of the eight main tasks for 2010, *"reinvigorating the country through science and education; empowering the nation through talents"* was put forward to highlight education, S&T and human resources as the core of the country's strength.

Chinese universities are an important player in the S&T activities. Of China's total scientific papers, over 80% were published by universities. They also host a number of State Key

Laboratories. Premier Wen's report underlined the reform of managerial and enrolment systems of universities to fulfil their autonomy².

Reform will not be limited to the universities but will concern the whole S&T system and will concentrate on bridging the gap between S&T progress and economic development, setting up a business-centred, market-oriented and industry-education-research-integrated innovation system. As part of this reform, measures will be put in place to provide incentives for innovation.

Human resource development will focus on innovative scientists and engineers, experts and professionals that meet the demands of key areas of economic and social development³, and senior talents overseas. A diversified education and investment mechanism shall be set up to involve government, nongovernment organisations, employers and individuals in creating an institutional environment favourable to the building and performance of talents.

More than a simple continuation of the increase in its S&T capacities, the Chinese government affirmed clearly its will to strategically orient these growing capacities towards R&D and innovation, and confirmed its willingness to use international cooperation as one of the tools to implement this strategy.

*Main contributors to this article: Mrs Zhong Wen, S&T and Env't. section, EU Delegation to China
Mr Jacques de Soyres, EURAXESS Links China.*

² See article published in [Nature](#) (and shared on EURAXESS e-community) about this topic.

³ In basic and frontier research these key areas include biology, nanoscience, quantum control, information network, climate change, space and oceanography.

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

Green Manufacturing Research in Ningbo

By Dr. Carsten Tietje, Dipl.-Wirtsch.-Ing., Lecturer in Engineering, The University of Nottingham Ningbo, China

Personal Background and Introduction

In September 2008, after having spent more than three years at the University of Nottingham's Precision Manufacturing Centre, I joined that university's Chinese campus. Nottingham is the first Western institution to establish a full-campus in mainland China, and over the last 18 months I have been involved in the establishing of a culture of research and programmes of teaching within a brand new Division of Engineering. As might be imagined, this is an exciting and important time to be involved in engineering in China.



Dr Carsten at the University of Nottingham Ningbo campus (background: award winning CSET Building)

The campus at which I work is located in the coastal city of Ningbo, two hours south of Shanghai, and an important manufacturing and shipping hub. Because of this it provides an ideal opportunity for engagement with the medium sized manufacturing companies which are the drivers of China's extraordinary export-based growth. Something we were keen to do from the beginning was to develop a network of regional contacts in academia, industry, and with governmental bodies, to identify potential research projects and find suitable partners for these. My own research is

focused on innovative green production methods and on knowledge transfer and development of precisely the kind needed to introduce new methods to regional industry in China.

Given that industrial production processes account for almost half of China's energy consumption,⁴ and that the efficiencies of various production systems and processes are not yet widely understood in the Chinese context, the aggregative wastage attendant on any inefficiency in production can be understood as very considerable indeed. There is, then, a clear need to introduce expertise in energy and resource efficient manufacturing. In order to do this it is critical to establish a well founded research base in this area, and as well to build *partnerships* to encourage and facilitate the wider take-up of green production.

Industrial Partnership

To illustrate the kind of research partnership the engineering division is striving to build, I should like to introduce an ongoing project I set up last September with funding from the University of Nottingham's Inter-Campus Research Development Fund and for which I continue to provide leadership.

The project is titled *Energy efficiency in the Ningbo automotive industry* and seeks to reduce production costs and energy consumption in plastics-manufacturing processes.

To proof the concept, this project focuses on a case study: improving an existing extrusion blow moulding machine, operated in a three shift system seven days per week. Both the machine itself and the '24/7' working pattern, which of course limits the range of solutions available, are commonly seen in Chinese manufacturing today.

Although the Chinese government has the stated aim of reducing the environmental impact of industry, this is not always seen in the implementing of efficiency-increasing technologies on the shop-floor, whether because of a lack of know-how at the local level or because factory owners consider that a switching to green methods will see them incur additional costs. In order to promote the take-up of more efficient methods and technologies it is critical to make sure these provide a return. For this reason one of the main goals of the project is to illustrate the economic viability of any technical solutions provided.

The project has involved a review of the state of the art and an analysis of the restrictions and requirements of the industry. Ideas and possible solutions have been generated and their feasibility in the regional context analyzed, these including local climate, available technologies and skills, and involved costs. These findings are based on the literature, the analysis of the OEM's machine manual, and extensive informal interviews and discussions with the line-management and different machine operators. Additionally, a number of site visits have been carried out in order to examine the shopfloor and provide in-depth analysis of the actual blow-moulding equipment and the products. That having been done, a measurement approach has been designed to facilitate the quantifying of improvements to be made in energy consumption.

⁴ Earthtrends: http://earthtrends.wri.org/pdf_library/country_profiles/ene_cou_156.pdf

Outlook

Efforts are already focused on expanding the project by looking for additional partners, be they in industry or research. The object is to widen the scope and to carry out similar tests so as to gather more field data from which to gain a better understanding of the sector. Also planned are project workshops that will disseminate initial research findings and provide a conduit for international experts to provide information and guidance to local industry in techniques of environmentally-benign plastics-production.

An overview of this and other ongoing activities related to research and education on the subject of sustainability in China can be found at my blog:

<http://gus.nottingham.edu.cn/blogs/green-tec>

Calls and announcements

EURAXESS LINKS CHINA ANNOUNCEMENTS

EURAXESS Links China Sectorial Meetings

A survey conducted in 2008 among the European research community based in China showed a strong demand from researchers for information and networking services targeted at different communities of researchers, based on their scientific fields. Hence, [EURAXESS Links China](#) and the [Science, Technology and Environment section of the European Union Delegation to China](#) intend to organize “sectorial meetings” bringing together European researchers working in the same field in China for them to get to know each other, to learn about their ongoing activities and to discuss issues of common interest.

We welcome suggestions from researchers and professionals for organizing sectorial meetings in their fields of activity.

If you would like to share ideas and suggestions about possible sectorial meetings in your field of activity, please do so by writing to jacques.desoyres@euraxess.net.

Find out [more about EURAXESS Links China Sectorial meetings](#).

EURAXESS Links China Sectorial Meeting – Law, April 30, Beijing

The first sectorial meeting will be organized in the field of Law on Friday morning, April 30. All European researchers, projects managers in the field of law or legal

practitioners interested in legal research in China are warmly invited to attend this meeting.

Professor **Ninon Colneric**, co-dean of the China-EU School of Law, and visiting scholar in Qinghua School of Law **Paolo Farah**, will each give a presentation during the meeting.

Download the [detailed agenda of the meeting](#).

To register please simply write to jacques.desoyres@euraxess.net and inform us about your will to attend this meeting and your occupation.

If you would like a specific issue to be addressed during the meeting, please mention it in your email and we will see to include it in the meeting programme, during the time allocated for discussion.

Workshop on “IP in EU-China research cooperation” – Questionnaire online

The European Union delegation S&T section and EURAXESS Links China are planning to organize a **workshop on “Intellectual Property in EU-China research cooperation”** to be held in Beijing, possibly in May 2010.

The goal of this workshop would be to inform, on a practical way, European researchers how to deal with research results and IP issues, in particular when collaborating with Chinese partners.

In order to tailor a workshop adapted to your needs and demands we have prepared a [questionnaire](#).

We thank all of you interested in the issue of intellectual property in research (all fields included) to take the time to **answer this**

questionnaire and to **send it back to** jacques.desoyres@euraxess.net.

EURAXESS Links China introduced at Hong Kong University of Science and Technology (HKUST)

The European Framework Programme 7, the opportunities for international cooperation under this programme and EURAXESS Links China were introduced at HKUST on March 26.

The meeting was attended by around 20 researchers from Hong Kong and the presentation was met with a keen interest. Many questions were raised about the practicalities of participating in the framework programme, in particular given the specific situation of Hong Kong within China. This meeting is expected to be followed up in order to promote a stronger participation of Hong Kong researchers in the European research programs and we are looking forward to further opportunities to organize other EURAXESS Links China events in Hong Kong.

For more information regarding these events please contact us directly at jacques.desoyres@euraxess.net

EU ANNOUNCEMENTS

“Relevant Fields of Chinese Law for European Investment in China, Professional Training Course” by the China-EU School of Law, 19-23 April 2010, Beijing

From 19 to 23 April 2010 the China-EU School of Law offers a special five-day professional training course in Beijing about “Relevant Fields of Chinese Law for

European Investment in China”. The training provides in-depth knowledge on legal problems of foreign investments in China and is tailored for European law firms as well as for companies active or planning to engage in business with China.

The course is one of the few workshops focusing on European legal professionals but taking place in Beijing, thus allowing on-site visits as part of the programme to Chinese state organs, arbitration commissions and other institutions playing an important role in the setting of foreign investment in China. The workshop is chaired by Prof. Stefan Messmann, head of the legal studies department at the Central European University in Budapest, Dr. Knut B. Pissler, senior researcher at the Max Planck Institute for Comparative and International Private Law, Hamburg, and Christoph Hezel, partner at the Beijing office of the international law firm Taylor Wessing. Speakers include experienced professionals from European law and accounting firms as well as outstanding European and Chinese academics.

The course will give an overview on the legal institutional setting of a market economy in China. After an introductory session devoted to a description of recent legal reforms and of the political and legal institutions and procedures, the course will focus on the development of China's legal framework governing foreign-invested enterprise. The course will also include lectures on labour relationships, fiscal regulations for foreign-invested enterprises, dispute resolution, the protection of property and technology transfer.

Participants of the EU sponsored seminar are subject to a fee of 1.000 EUR. For further information and online registration

please refer to www.cesl.edu.cn and to the [leaflet](#)

Event - Academy of European Law (ERA) annual seminar on EU law 2010: “Recent developments in EU legislation and case law”, Trier (Germany), 3-4 May 2010

This seminar will offer an overview of the latest innovations following the entry into force of the Lisbon Treaty, in particular the new EU institutional framework and its implications. Attention will be focused on the most recent developments in the internal market. Following issues will be highlighted:

- Basic freedoms;
- Insurance sector in the aftermath of the financial crisis;
- Environmental law, in particular climate change issues and the necessity for energy-efficient economies;
- Trademarks and the fight against counterfeiting;
- Competition law, in particular the reform of the vertical Block Exemption rules;
- State aid policy aimed at recovery from the financial and economic crisis,
- The most up-to-date case law on cartels, abuse of a dominant position and mergers;
- Company law, in particular corporate governance and compliance in the current economic context.

Registrations reaching ERA **before 3 April 2010 will be eligible for a 10% discount.**

[Please click here for further information.](#)

European Commission unveils new research projects to fight influenza

Today, the European Commission announced the results of its €18 million call for proposals for new research projects on influenza. Four collaborative research projects have been shortlisted for funding. They are involving 52 research institutes and SMEs from 18 European countries and 3 international partners (Israel, **China**, the United States).

Influenza virus genes migrate across continents and between species and seriously threaten both human and animal health. Two consortia will focus their research on influenza in pigs while the two others will develop innovative drugs against influenza in humans. Their selection is part of the EU's longstanding support for research on influenza and brings the total Commission funding in this field to over €100 million since 2001.

More information on this [webpage](#).

Health e-library online

The health-related publications highlight the results of research projects financed by the European Union through the 6th and 7th Framework Programmes. They concern strategic health research areas, such as stroke, influenza, cancer, new therapies, etc, as well as general publications on health research funding. The PDF versions are available free of charge from this e-Library, where you can also order one paper copy of each publication (also free of charge) online. You can view the publications by year (2006-2009) and/or research area and then add the ones that interest you most to your

order, which you can then review and change before making your online request. Go to the [Health e-Library](#).

MEMBER STATES – CHINA ANNOUNCEMENTS

NSFC and European partner institutions - Exchanges of researchers for 2010

Every year the National Natural Science Foundation of China (NSFC) supports exchanges of researchers between China and several European countries together with research institutions of the concerned countries.

The NSFC has released on its website the lists of exchanges to be supported for 2010 [with the British Royal Society](#) and [with the French CNRS](#).

Master of Contemporary China Studies - School of International Studies - Renmin University of China

Applications to the Master of Contemporary China Studies offered since 2006 by the School of International Studies of Renmin University can be submitted until 30 April 2010.

The language of instruction of this 2 years master programme is English. Students able to demonstrate their financial need can apply for scholarships, which cannot exceed the cost of tuition fees.

Find more details on this Master programme and the contact person to whom applications should be sent in this [brochure](#).

University of Milan, Franklin Pierce Law Center and Tsinghua University School of Law organizes the China Intellectual

Property Summer Institute, Beijing, June 28-July 23, 2010.

The China Intellectual Property Summer Institute at Tsinghua University School of Law, Beijing which started in 2002, is a natural extension of the Intellectual Property Summer Institute which has been held at Pierce Law every summer since 1987.

Recognizing the important role Europe plays in the progressive development and codification of international intellectual property law, the new established cooperation among Franklin Pierce Law Center, Tsinghua University School of Law and Università degli Studi di Milano, Faculty of Law will facilitate a broader participation from European students and the development of sound principles of international legal education.

The Pierce Law-Tsinghua University-University of Milan study abroad is open to law students, under and postgraduates, as well as to lawyers and other law practitioners.

Further information about this programme on Franklin Pierce Law Center's [website](#).

Freiburg University at Shanghai Expo – Alumni seminar from May 20 to May 23

„Alumni Freiburg“, the alumni association of the Albert-Ludwigs University, has more than 78 000 members all over the world and started organizing gatherings in China in 2002. With Chinese students being the biggest group of foreign students at the Albert-Ludwigs University, the dynamism of the Chinese branch of „Alumni Freiburg“ comes as no surprise and will be illustrated by the participation of the Albert-Ludwigs University, together with the city of Freiburg, in the Shanghai world expo

through a stand on „Urban Best Practice Area“.

The stand will officially be opened on 20 May by the mayor of Freiburg, Dr. Dieter Salomonand, and the rector of the Freiburg University, Professor Dr. Hans-Jochen Schiewer. This opening will also act as the launch of the Freiburg Alumni seminar on “Environmental management“ from the 20th to the 23rd of May, 2010 at the Tongji University Shanghai, China, that we announced in the newsletter’s previous edition.

Former students at Albert-Ludwigs University are cordially invited to attend this opening and the seminar. For more information about the Alumni Freiburg and its Chinese branch, visit www.alumni.uni-freiburg.de.

CALLS

New call for Marie Curie International Incoming Fellowship (IIF) has been launched

On 17 March 2010, a [new call for the Marie Curie International Incoming Fellowship \(IIF\)](#) under the PEOPLE Programme (FP7) was launched.

This action aims at encouraging **top class researchers from third countries, and European researchers who have been active in research in a third country for at least three years**, to work on research projects in Europe. Eligible to apply are researchers with at least four years full-time postgraduate research experience or a doctoral degree. Proposals from all areas of scientific and technological research of interest to the European Community are welcome.

Proposals are submitted by the researcher in liaison with the organization that will host him/her in a Member State or Associated Country and evaluated by external independent experts against a series of predetermined criteria. Financial support will be provided to the best proposals for a period of one to two years, and eventually for an additional return phase of one year if the researcher originates from an International cooperation partner country.

Funding includes, in particular, a salary for the researcher and a contribution towards research-related costs.

Deadline for application is **August 17**.

2 other calls under People programme have been launched. Check them in the [Funding opportunities section](#) of EURAXESS Links China website.

Energy Programme – UK-China Call for Collaborative Research on Solar Cells, Solar Fuels and Fuel Cells

The Research Councils UK Energy Programme wishes to develop collaborative projects between the UK and China in partnership with the Chinese Academy of Sciences (CAS) in the field of solar cells, solar fuels and fuel cells under the following themes:

- New materials, architectures and processes for solar cells
- New materials, structures and reactions for solar fuels
- New materials, components and integrated systems for fuel cells
- Fundamental studies of energy conversion mechanisms for solar cells, solar fuels and fuel cells

Up to £2.5m is available across the theme areas from the UK side with matched

equivalent resources from CAS.

Closing date: 4 PM on 20 May 2010

For more detail, please visit EPSRC website at:

<http://www.epsrc.ac.uk/funding/calls/open/Pages/cassolarfuel.aspx>

Chinese researchers please visit CAS website at:

http://www.casbic.ac.cn/tzgg/201003/t20100331_2809764.html

PROCORE - France / Hong Kong Joint Research Scheme : Call Circular for the 2010/2011 Exercise

Launched in 1998 by the Hong Kong Research Grant Council and the Consulat Général de France in Hong Kong, this scheme aims to promote research

collaboration between Hong Kong and France by providing researchers in the two places with one-year and two-year travel grants. The scheme also offers two conference/workshop grants to sponsor a conference/workshop each in Hong Kong and in France.

Call deadline is 20 May 2010.

More information on the Hong Kong [Research Grant Council website](#) (Hong Kong applicants) and on the [CNRS China office webpage](#) (French applicants).

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 Reintegration Grants	9 October 2009	7 September 2010
Marie Curie International Incoming Fellowships (IIF)	17 March 2010	17 August 2010
Marie Curie International Outgoing Fellowships (IOF)	17 March 2010	17 August 2010
Marie Curie Intra-European Fellowships (IEF)	17 March 2010	17 August 2010

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

[Information and Communication Technologies](#) / 2 Open calls

[Joint Technology Initiatives \(Annex IV-SP1\)](#) / 4 Open calls

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

[Science in Society](#) / 1 Open call

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

[Nuclear Fission and Radiation Protection](#) / 1 Open call

Coming events

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

Field	Date	Location	Title <i>(click for more details)</i>
EURAXESS	30 April	Beijing	EURAXESS Links China Sectorial Meeting – LAW
Medicine	8-12 April	Shanghai	26th International Congress of Radiology (ICR 2010)
Environmental S&T	20-25 April	Taipei (Taiwan)	EPICOH-MEDICHEM 2010
Medicine	15-17 May	Beijing	BIT Life Sciences' 1st Annual World Congress of Immunodiseases and Therapy 2010(WCIT-2010)
Space	17-21 May	Guilin (Guangxi)	2010 Dragon 2 Midterm Results Symposium
Journalism & Communication	19-20 May	Beijing	The 3rd Annual Asia Future TV Summit
Aeronautics	7-8 July	Beijing	Aviation Outlook China 2010
Hydraulic Engineering	19-21 July	Lhasa (Tibet)	The 2nd International Workshop on Energy and Water Cycle over the Tibetan Plateau and High-elevations
Hydraulic Engineering	21-23 July	Lhasa (Tibet)	The Fourth International Workshop on Catchment-scale Hydrological Modeling and Data Assimilation
Management Science	23-25 July	Sanya (Hainan)	IEEE The 2nd International Conference on Advanced Management Science (ICAMS 2010)
Computer sciences	24-26 July	Beijing	The 5th International Conference on Queueing Theory and Network Applications (QTNA 2010)
Medicine	4-10 August	Nanchang (Jiangxi)	Symposium for Chinese Neuroscientists Worldwide 2010 (SCNW 2010)
Mathematics	20-24 August	Jiuzhaigou (Sichuan)	The 9th International Symposium on Operations Research and Its Applications (ISORA 2010)
Chemical engineering	23-25 August	Taiyuan (Shanxi)	The 8th International Symposium on Gas Cleaning at High Temperatures
Chemical engineering	7-10 Septembre	Dalian	2nd Asia Pacific Conference on Ionic Liquids and Green Processes (2nd APCIL)
Medicine	16-20 September	Beijing	25th congress of the Asia-Pacific Academy of Ophthalmology

Biology, Computer sciences	17-20 September	Wuxi (Jiangsu)	2010 International Conference on Life System Modeling and Simulation
Computer sciences	10-12 October	HuangShan (Anhui)	CyberC 2010: International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery
Hydraulic Engineering	11-15 October	Shanghai	9th International Conference on Hydrodynamics
Medicine	23-26 October	Beijing	BIT's 8th Annual Congress of International Drug Discovery Science and Technology
Computer sciences	1-5 November	Nanjing	The 9th International Conference on Grid and Cloud Computing (GCC2010)
Medicine	7-9 December	Shanghai	BIT's 2nd Annual International Congress of Cardiology
Engineering	7-10 December	Macau	2010 IEEE International Conference on Industrial Engineering and Engineering Management
Biology	11-15 May 2011	Shanghai	Asian Congress on Biotechnology 2011 (ACB-2011)

S&T highlights from the media⁵

POLICIES AND PAPERS

China, India join Copenhagen treaty

China and India aligned on 9 March with the Copenhagen Accord that combats climate change, joining almost all other major greenhouse gas emitters in endorsing the non-binding pact, Reuters reported. Su Wei, the Chinese climate negotiator, told the Bonn-based UN climate change secretariat in an official letter that it could "proceed to include China in the list" of countries supporting the deal reached at the summit in December. Wang Yizhou, vice dean of School of International Studies at Peking University, told the Global Times Wednesday that the move clarified Beijing's resolve to fight climate change. "By joining the accord, China demonstrated its determination to find a path of green development," Wang said. "The decision is not a concession to pressure from foreign countries. Instead, it is a reflection of China's need for sustainable development." In a recent strategy report on sustainable development, the Chinese Academy of Social Sciences outlined the framework of China's green development in coming years. "Green development is a path that China must choose for its future," the report said. "During the 12th Five-Year Plan (2011-2015) and the following decade, the basic concept of China's green development is to prioritize policy making in relevant fields, invest in green technology innovations, improve corporate responsibility of Chinese entities operating overseas, and promote industries that are resource-effective and environmentally friendly." (Further details in source: [Global Times](#))

China to spend 83 bln yuan on emissions cuts in 2010

China will have made great achievements in energy saving and reducing carbon dioxide emissions by the end of 11th Five-Year plan (2005-2010), said Xie Zhenhua, vice minister of the National Development and Reform Commission. Xie said, "By the end of 2009, the fourth year of 11th Five-Year plan, energy consumption per unit of GDP had decreased 14.38 percent. Chemical oxygen demand (COD) and sulfur dioxide (SO₂) emissions, which are major measures of water and air pollution, decreased 9.66 percent and 13.14 percent respectively." Xie said China will invest 83.3 billion yuan (US\$12.19 billion) in 2010 to support carbon emissions reductions. Small coal-fired thermal power generating units with a total capacity of 10 million kW nationwide, 25 million tons of iron-making capacity, 6 million tons of steel-making capacity, and 50 million tons of cement-making capacity will be cut this year. (Further details in source: [China.org](#))

⁵ 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.

VOICES AND OPINIONS

Wind power factories called 'image projects'

China's wind power factories are mostly "image projects" built largely for displaying local governments' achievements rather than for use by ordinary people, the Beijing Times reported, citing Miao Wei, vice minister of the Ministry of Industry and Information Technology. It is not suitable for China to build too many wind power factories because wind is always accompanied by sand in China and the equipment will erode quickly. The wind power equipment's average lifespan is 20 years, but if there is sand in the wind they cannot hold up that long, Miao said, adding that "the 10-million-kilowatt wind power station in Gansu province is a typical 'image project'." The wind power station Miao referred to has started construction in August 2008, with an estimated total reserve of 150 million kilowatts and an available capacity of more than 40 million kilowatts. In other countries, the situation is different because they don't have sand in the wind, Miao said. (Source: [China Daily](#))

China debates university reform

Academics lobby for more autonomy, but fear losing powerful connections with government. Most scientists in China agree that their university system is ripe for reform. They chafe under bureaucracy and targets that promote research quantity over quality. Now the government has asked them for ideas about how to achieve that reform — and sparked a heated debate. At issue is the desire of many academics to secure greater autonomy for their institutions, allowing them to hire more freely and develop unique research specialities. But some argue that this autonomy will go hand in hand with losing crucial connections — and influence — with powerful government departments. (Further details in source: [Nature](#))

Scientists relying on foreign technology

China spends billions of dollars importing high-end scientific instruments every year, and its global competitiveness in manufacturing this technology is dwindling, found by a survey conducted by Peking University and the National Centre for Nanoscience and Technology and the National Science Library. The survey found that in some sectors scientists rely 100 percent on imported high-end instruments. Importing these high-end instruments, including DNA sequencers and particle colliders, cost several billion US dollars in 2009, an increase of 30 percent on the previous year, the report found. The report found China's reliance on imported high-end instruments - the key tools for innovation and scientific breakthrough - has grown heavier in recent years. The scientific instruments are widely used for testing and analysis in areas such as genetic engineering, space projects, energy-saving technologies, food safety and military services. However, the gap between China and the developed world in research and manufacturing of these scientific instruments has not closed, but widened, the survey found. (Further details in source: [China Daily](#))

PEOPLE OF THE MONTH

Prof. LU Ke Elected MRS Fellow

Prof. LU Ke, the director of Institute of Metal Research, was elected as a Materials Research Society (MRS) Fellow in march 2010. It was in recognition of his outstanding achievement in the discovery of nano-twinned metals and development of nanostructured metals through the advancement of synthesis technologies, revealing novel properties and performance. MRS, founded in 1973, has over 15,000 members and 97 fellows from the United States and other countries. Prof. Lu is the second MRS Fellow from Chinese mainland, following Prof. LI Hengde (Tsinghua University) elected earlier on. (Source: [CAS](#))

YAN Shefeng of IACAS, A NEW IEEE Senior Member

YAN Shefeng, a professor of Department of Integrated Digital System, Institute of Acoustics, Chinese Academy of Sciences (IACAS) passed strict review of IEEE (Institute of Electrical and Electronics Engineers) and earned the qualification to be a senior member of IEEE. Shefeng Yan received his Bachelor's, Master's and Ph.D. degrees in electrical engineering from Northwestern Polytechnical University, Xi'an, China, in 1999, 2001 and 2005 respectively. He was a postdoctoral research associate with the IACAS from 2005 to 2007, and with the Department of Electronics and Telecommunications, Norwegian University of Science and Technology, Trondheim, Norway from 2007 to 2009. In 2009, he joined IACAS as a Professor and was then appointed as the Acting Director of the Intelligent Sensing and Signal Processing Lab at IACAS. He is the author a book and about 30 refereed international journal and conference publications and the holder of 4 patents. His current research interests include underwater acoustics, statistical and array signal processing, and their applications. Prof. Yan is an outstanding young scholar of "Hundred Talents Programme" with Chinese Academy of Sciences. He is a recipient of the Chinese 2008 National Excellent Doctoral Dissertation Award, which each year honors China's top 100 doctors who recently receive their doctoral degree in all fields from China. He is also a co-recipient of the Best Paper Awards at SENSORCOMM 2008 and WASPAA 2009. He is on the editorial boards of two journals of Bentham. He also serves as a reviewer of several international journals such as IEEE Trans. Signal Processing, IEEE Trans. Audio Speech Lang. Process., IEEE Signal Process. Lett., etc. Dr. YAN's homepage: <https://dl.dropbox.com/u/639394/~shefeng/index.html>. (Source: [CAS](#))

SCIENTIFIC ACTIVITIES

Health

Science-Based Health Care

The provision of adequate health care is one of the major challenges for modern societies. It is an especially tough task in developing countries with limited resources and insufficient capacity. Obstacles are even encountered at the conceptual level. According to economic analyses, health system innovations will not only improve livelihoods but also boost internal consumption and job opportunities. But these innovations cannot succeed without the strong support of science. Both the biomedical and social sciences will be critical for developing

sound policies that reshape health care systems. In China, with its fast-aging populace and a disease burden increase associated with urbanization and industrialization, science must drive an evidence-based analysis of the cost-effectiveness of drugs and medical technologies to enable effective and affordable prevention, diagnoses, and treatments. Science also facilitates the evaluation of the performance of health care institutions to ensure quality services. (Further details in source: [CAS](#))

World's First Therapeutic Hepatitis Vaccine

Prof. WEN Yumei, a Chinese Academy of Engineering academician at Fudan University School of Medicine, disclosed on March 16, 2010 that a research team, led by her, has worked out the first therapeutic hepatitis B vaccine in the world, and will terminate its clinical trials at the end of the year. After that, the therapeutic vaccine will apply for an approval for entering the market. WEN explained that a therapeutic vaccine is a therapy sitting between drugs and immune vaccines. Compared with the interferon therapy that has been widely applied at the present stage, the therapeutic hepatitis B vaccine enjoys numerous merits, including the shortened treatment process, reduced side effects, and lower costs. (Source: [MOST](#))

Food, agriculture and fisheries, biotechnology

University paper offers agro solutions for Africa

China Agriculture University released a research paper entitled Comparison of Agriculture for Development in China and Africa that offered ways to help Africa develop its agricultural industry in the wake of the government's efforts to boost Sino- African agricultural cooperation. "The main factor constraining the development of African agriculture is insufficient investment," said the report. "The foundation for the development of African agriculture is the transformation of small farm production systems." The report recommended construction of multiple cropping and specialized crops belts, among others factors, to increase production yields. Victoria Sekitoleko, Food and Agriculture Organizations chief representative in China and former minister of agriculture of the Ugandan government, told the Global Times that she believes those recommendations are applicable, although she argued that those recommendations are not effective enough in some sense. (Further details in source: [Global Times](#))

Food safety reforms proposed

The general office of the State Council issued a plan to improve national food safety, setting the tone for this year's programme, which includes emphasizing the accountability of the system. As part of a two-year project that began last month, the plan details 11 points for reforming food safety in China, aiming to solve problems and restore public confidence in the products that are available on the market. One of the points concerned the quality of farm products. The plan, which requires increased supervision of fresh dairy products, also proposed a clampdown on illegal purchasing stations as well as severe punishments for the use of the banned medications nitrofurans and malachite green in the aquaculture industry. Other points include banning illegal food additives, improving food production and processing, as well as the importing and exporting of food. In addition to highlighting the need for comprehensive food safety regulations, there were also calls for improving the intermediate links in food production, including better regulation of the catering and butchering industries.

The work plan has brought food production and processing into focus and placed an emphasis on establishing the accountability of the food safety system. (Further details in source: [People Daily](#))

GM paddy rice to hit market shortly: expert

Genetically modified (GM) paddy rice is expected to be available in the market in about three to five years, according to a Ministry of Agriculture think tank member. Huang Dafang, a member of the think tank on the safety of GM food, rejected suggestions by four delegates to the Chinese People's Political Consultative Conference (CPPCC) that the commercialization of GM foods should be slowed down. But some experts and politicians said GM foods come with unknown risks and called for legislation to supervise the commercialization, import and sales of GM grains and materials. (Further details in source: [Global Times](#))

GM grain still 'long distance away'

Genetically modified (GM) foods still have a long way to go before they reach the Chinese market even though the Ministry of Agriculture has granted bio-safety certificates to two pest-resistant GM rice varieties and corn, and before reaching the shelves, the products need to be certified by government agencies from the health and quality inspection sectors, Chen Xiwen, a member of the Chinese People's Political Consultative Conference (CPPCC) and deputy director of the Central Rural Work Leading Group, said during a panel discussion in Beijing. "As a country with a huge population to feed, China should maintain its leading role in the research of advanced agricultural technology," Chen said, adding that the country needs to be prudent in GM production. There has been widespread speculation on when GM staples, particularly rice, would be available on the menu, as worries over consumer safety continue to grow. (Further details in source: [China Daily](#))

Scholars up in arms over transgenic certificates

More than 120 Chinese scholars have filed a petition to the nation's top legislature, demanding, on the grounds of bio-safety, the revocation of the Agriculture Ministry's certificates on two transgenic rice breeds and more cautious licensing in the future, Hangzhou's Youth Times. The scholars are "seriously concerned" about the potential perils of transgenic foods, especially on domestic breeds' heredity and consumers' health, which they said would threaten to jeopardize "the national security and its people." (Further details in source: [China.org](#))

Foot-and-mouth disease in pigs reported in south China

Foot-and-mouth disease was found in 69 pigs in south China's Guangdong Province, and local government said the epidemic has been under effective control. The disease was first spotted in 69 pigs in Longgang district of Shenzhen City on March 4, the Information Office of Shenzhen Municipal Government said in a statement on 13 March. All the infected pigs and other 1,039 pigs raised nearby have been killed and disposed properly. The area has been sterilized, it said. There is no report of other foot-and-mouth disease cases so far, it said. (Source: [Xinhua Net](#))

Draft law highlights ban on cruelty to animals

The latest draft of China's first law on "anti-cruelty to animals", which was made public on 17 March to solicit opinion, has banned zoos from maltreating animals by not giving them adequate food and water. The draft has also changed a controversial stipulation in its

previous version that bans the consumption of dogs and cats, leaving the decision to regional authorities. China currently has the Wildlife Protection Law, the Animal Epidemic Prevention Law, the Livestock Husbandry Law, the Pig Slaughter Regulations, the Laboratory Animal Management Regulations and other specific laws and regulations that address animal protection and management. The draft stipulates that "humane measures" should be adopted to butcher or kill animals, when necessary, and that no killing should take place in front of minors. (Further details in source: [China Daily](#))

Advanced Generic Technologies for Food Industry

An initiative to study advanced generic technologies for food industry, under an agricultural component of National S&T Infrastructure Programme during the 11th Five-year Plan period (2006-2010), has developed the non-thermal processing techniques and associated quality control and standards, for meat products, a substantive progress made in the industrial demonstration of the cold chain control process from production, to delivery, and to sale. The effort also resulted in an advanced technique for preparing lipid soluble vitamin carrier, along with the proprietary scale systems for preparing biocapsules and emulsificated gel capsules. In addition, researchers worked out the advanced technologies to utilize the non-starch components of corn skin, protein, germ, and silk, and to produce high value added corn products. Researchers also developed an improved technical system for balanced supply of raw organ juice on a long term basis, along with a test kit picking out the bacteria that may cause the deterioration of orange, ensuring the quality of orange juice. (Further details in source: [MOST](#))

Scientists make genetically-modified cow with high Omega-3 fatty acid level

The world's first genetically-modified cow with high level of Omega-3 fatty acid is nine-months old, healthy and expected to produce milk rich in the fatty acid essential for human health, Chinese scientists said. Li Guangpeng, chief of the programme, said two embryo-cloned and genetically-modified dairy cows were born on June 23 last year. One of the cows has been found to have an Omega-3 fatty acid level 10 times higher than a normal cow. (Further details in source: [Global Times](#))

World First Hybrid Benne

A team headed by DANG Zhanhai at Institute of Economic Crops, part of Gansu Provincial Academy of Agricultural Sciences, has bred out the first hybrid benne species, named Longyaza 1 and Longyaza 2, in the world. Not long ago, the two new species, with a per mu yield up to 260 kg and an oil content up to 40% or more, have passed the approval check at the provincial level. (Further details in source: [MOST](#))

Pollen Development Mechanism Found

A study team, led by ZHANG Dabing, published three papers in the Plant Cell in 2010, introducing a number of key DNAs that contribute to the development and formation of pollens and associated regulating mechanism. ZHANG and coworkers unveiled the key DNA CYP704B2 that regulates the growth of cuticle and the formation of exine, the external wall of pollen, using genetic, biochemical, and cell biological means, and proposed that the synthesis of cuticle and pollenin may take the same biochemical process. Zhang also isolated and characterized a rice mutant, carbon starved anther (CSA), that showed increased sugar contents in leaves and stems, and reduced levels of sugars and starch in floral organs (Fig. 2).

The finding provides an important evidence for understanding the distribution of sugar within the plant. (Further details in source: [MOST](#))

Fat-to-Sugar DNA Cloned

Prof. ZHENG Bingsong at Zhejiang Forestry University have studied plant gene cloning and associated functions in Sweden and France since 2004. He found in an Arabidopsis thaliana seeds study that the seeds would turn fat into sugar to keep its breath and growth at the development stage. He also found the similar phenomenon in other oil producing plants. Eventually Prof. ZHENG cloned the DNA that contributes to the function from Arabidopsis thaliana. According to ZHENG, The cloned DNA is able to get out the fat inside the seeds and turn it into sugar, which can be consumed in human breathing, and reach the goal of losing weight. (Further details in source: [MOST](#))

Information and communication technologies

37 robots to serve Shanghai World Expo

Thirty seven multi-functional robots, which were customized to serve the visitors of Shanghai World Expo, made their debut on 7 March. Besides dancing and singing, the 1.55-meter tall robots, shaped after the Expo mascot Haibao, could "communicate" with visitors in six languages and take photos for them, said Chu Jian, vice president of Zhejiang University, a key designer of the robots. The robots have touch screens on their chests to answer inquiries on road, public service and Expo information, Chu added. The Haibao robots will be placed in Shanghai's two international airports and at the entrances of some major Expo venues, he said. This is the first extensive application of robots on a public event in China, according to a statement of the Expo Bureau. (Source: [Xinhua net](#))

China's fastest super computer to have China-made chips

China's fastest super computer "Tianhe-1," ("Tianhe" meaning Milky Way), is to be equipped this year with China-made central processing unit (CPU) chips, replacing the only part of the computer that is currently imported. Zhang Yulin, president of the National University of Defense Technology (NUDT) which developed the computer, told Xinhua that the chips, also developed by the NUDT, are customized for this super computer. (Further details in source: [Global Times](#))

Milky Way II Supercomputer

China will build a proprietary petaflop supercomputer, or Milky Way II, on FT-1500CPU in 2011 to develop two components (core electronic components and generic software), and one chip (high-end generic chips). Researchers are currently working on multi-core CPU that can be used by high performance computers, and built-in CPU desired for computer safety. China strives to establish a proprietary R&D system for high-end generic chips and generic computer programs, and to realize the associated industrialization in 2020. Meanwhile, researchers are working on built-in programs for 3G mobile phones and associated application and industrialization. So far some substantive progresses have been achieved in built-in mobile programs and online operating system. (Further details in source: [MOST](#))

China taps into Internet of Things world

In Wuxi City of east China's Jiangsu Province, an intelligent transportation system is under construction, which by using the Internet of Things technologies, would enable traffic lights to change automatically according to traffic flows. Some 2,153 buses in Wuxi, or 92 percent of the total, are the first batch of the country's "smart buses" using the network. Through a combination of GIS (geographic information system), GPS (global positioning system) and electronic controls, people can learn nearly everything about a bus, including its location, speed and road conditions. China set up its first Internet of Things center in Shanghai last week. The center is designed to study technologies and industrial standards in the field. (Further details in source: [Global Times](#))

Improved Silicon Optical Connection

In collaboration with the researchers at Shanghai Hongli Semiconductor Manufacture, an SOI team with Shanghai Institute of Microsystem and Information Technology, part of the Chinese Academy of Sciences, has rolled out a silicon-based electro-optic modulator chip at 10Gbps, based on a CMOS platform, taking advantage of its own strength in SOI research and integrated circuit applications. The modulator chip can sit together with an integrated circuit on the same SOI board, meeting the speed needs of high definition TV signal transmission and internet based optical connections. The new modulator chip will find broad applications in the area of new generation high performance computers, optical communication, and consumer electronic appliances. (Source: [MOST](#))

Nanosciences, Nanotechnologies, Materials and new Production Technologies

New SERS Technique

A study, led by TIAN Zhongqun at Xiamen University, and a team, headed by WANG Zhonglin with Georgia Institute of Technology, reported their latest findings in the March 18, 2010 issue of journal Nature. Under the title of Shell-isolated nanoparticle-enhanced Raman spectroscopy, researchers reported a new technique developed for surface-enhanced Raman spectroscopy. It is believed that the new technique significantly expands the flexibility of SERS for useful applications in the materials and life sciences, as well as for the inspection of food safety, drugs, explosives and environment pollutants. The SHINERS derived from the study makes obtaining surface Raman spectroscopy of the molecules and ions attached to platinum and gold monocrystal electrodes under a controlled condition possible. (Further details in source: [MOST](#))

Clean Metal Magnesium Production

Qinghai Institute of Salt Lakes, part of the Chinese Academy of Sciences, has developed a proprietary new technique for preparing metal magnesium. The new technique removes both the carbon dioxide and sulphur oxides heavily emitted from producing the metal magnesium with a high purity up to 99.99% using the magnesium chloride stemmed from the salt lakes in the locality and the lime left out from industrial processes, realized a clean metal magnesium production process. (Further details in source: [MOST](#))

Keeping Red Cells for Longer Time

A key project to develop nano magnetic particles to test human blood, under an innovation fund established for small and medium-sized tech businesses, has landed theoretical, technological, and technical breakthroughs, helping find a solution to addressing a long standing puzzle that red blood cells cannot be stored for a long time. It also ended up the past practice that blood test can only be done half in China. The new test technique passed experts' approval on March 24, 2010. According to LI Yong, head of the project and director of Changchun Institute of Biological Products, the newly developed test technique and associated agents has made a perfect combination of today's nano magnetic particle technology and immunology. (Further details in source: [MOST](#))

Environment (including climate change)

Int'l scientists to launch environmental studies on "Third Pole"

International scientists are preparing to launch a joint study on the environment of the "Third Pole" region centered on the Qinghai-Tibet Plateau and neighboring areas, said Yao Tandong, director of the Institute of Qinghai-Tibet Plateau Research with the Chinese Academy of Sciences. The "Third Pole" region, covering more than 5 million square km at an average altitude of above 4,000 meters, is the birthplace of about 1,000 glaciers in tropical and sub-tropical regions, Yao said. "The environmental changes in the 'Third Pole' will directly affect the economic and social development in the Qinghai-Tibet Plateau and neighboring countries, and will directly or indirectly affect the livelihoods and even survival of the 1.5 billion residents there," he told Xinhua in an exclusive interview. Under the "Third Pole Environment" (TPE) project initiated by Chinese scientists, a group of scientists and science organizations from countries in the region and western countries will gather to carry out joint studies focusing on the competing influences of water, ice, air, ecosystem and human activities in the region. (Further details in source: [Xinhua Net](#))

China builds first low-carbon R&D center in Shanghai

China's first low-carbon technology research, development and promotion centre was set up in Shanghai International Energy Conservation and Environmental Protection Park on March 29. The centre is jointly funded by the China Energy Conservation and Environmental Protection Group, Shanghai Yidian Holding Company and Baoshan District. The center consists of China's first energy conservation and environmental protection diagnosis centre, an energy conservation and environmental protection technology R&D base, and an energy conservation and environmental protection training base. It will provide a platform on which hundreds of enterprises specializing in energy conservation and environmental protection will display thousands of categories of energy-efficient and environmentally-friendly new products, technologies and techniques. At the same time, it will reap annual operating revenue of 10 billion yuan through technology transfers, product marketing and comprehensive services. (Source: [People Daily](#))

Three Gorges developer, WWF join hands in Yangtze ecosystem protection

China Three Gorges Corporation (CTGC) will cooperate with the World Wide Fund for Nature to limit the negative impact of the Three Gorges Project on the Yangtze's ecosystem. According to the memoranda of understanding, the two sides will use international standards for sustainable hydropower generation, promote the sustainable operation of the project, and boost research on Yangtze basin water resource management. The two sides will also

strengthen exchanges and cooperation, raise public awareness of the environmental protection features of the Three Gorges Project, and promote information sharing, capacity building and environmental protection. (Further details in source: [People Daily](#))

Drought in southwestern China caused by climate change: experts

Meteorologists have attributed the once-in-a-century drought parching southwest China to climate change. "The direct reason for the drought is light rain and high temperatures," said Ren Fuming, a leading expert at China's National Climate Center. (Further details in source: [People Daily](#))

Science offers solutions to severe drought

The country's top meteorologist Zheng Guoguang, chief of the China Meteorological Administration, said science and technology will answer the prayers of those living through the harshest drought in decades afflicting Southwest China. "We have artificial precipitation equipment that is on par with the world's best, so instead of turning to religion, people can well count on science and technology to relieve drought and increase rain." Zheng, speaking at a press conference that marked the launch of a national statute on meteorological disaster relief, also promised farmers that they could expect the same meteorological services as their urban cousins. (Further details in source: [Xinhua net](#))

Desalination of Sea Ice Feasible for Mass Production: Chinese Scientists

Sea ice seen as a disaster in northeast China's Bohai Bay has been eyed as an important alternative freshwater source by Chinese scientists, as their latest research shows China's desalination technology is feasible for mass production. If commercially adopted, the technology is expected to help quench the thirsty north China. So far, the programme has led to the development of a sea ice collecting machine, which can gather 1,000 cubic meters of floating sea ice per hour. The scientists said that the technology may be first applied by big industrial water users. (Further details in source: [CAS](#))

Energy

Weather shines brightly on future green energy

The China Meteorological Administration is analyzing data on wind speed and sunshine from across the country to determine the best locations for establishing wind-based power plants. The meteorological sector has been entrusted with the task of providing all-round meteorological services in the country's pursuit of a green economy. The data will ultimately be used to tell decision-makers the best location for a wind-based power plant. A census on the development of wind resources is expected to be finished this year. As the country moves toward a low-carbon economy, authorities have asked the meteorological administration to step up research of so-called "climatic resources". (Further details in source: [China Daily](#))

China to move ahead on clean energy "combustible ice"

China's western Qinghai Province, containing major deposits of the country's "combustible ice," will see increased explorations for this emerging clean energy, Provincial Governor Luo Huining said. The plateau province plans to allow large energy companies along with researchers to tap this new source of energy while minimizing environmental threats, Luo

said on the sidelines of the annual session of the National People's Congress (NPC), China's top legislature. The deposits in Qinghai Province, home to one-quarter of China's total reserve on the Qinghai-Tibet Plateau, were discovered in September 2009. Luo expressed his hope that researchers could find excavation techniques to avoid damaging the ecological system while extracting the "combustible ice." (Further details in source: [Global Times](#))

Chinese company to develop new energy in northeast

Aviation Industry Corporation of China will invest 3.3 billion yuan (483.9 million U.S. dollars) to develop new energy enterprises in China's northeast. The state-owned company said it would build wind power stations of 200,000 kilowatts (kw), natural gas power stations of 100,000 kw and solar power stations of 40,000 kw installed capacity in the city of Da'an, Jilin Province, northeast China. The waste heat of the natural gas power stations would also be used to warm houses, the company said. (Further details in source: [People Daily](#))

First Marine Wind Farm

On February 27, 2010, Chinese engineers completed the installation of the marine wind farm over a marine area near the East Sea Bridge in Shanghai. The marine wind farm, with a capacity of 100,000 kilowatts, is the first of its kind in the country, and in Asia as well. The proprietary marine wind farm is made up of 34 wind turbines enjoying the top output as an individual unit. (Further details in source: [MOST](#))

China sets to build smart grid to tap renewable energy

China is stepping up the "smart grid" construction across the country. Cai Guoxiong, deputy chief engineer of the China Electric Power Research Institute under the State Grid Corporation, said the smart grid has been piloted in big and medium cities since the State Grid kicked off the construction in May 2009. The "smart grid" is an intelligent system capable of seamlessly integrating the alternative sources like solar and wind from power suppliers into the electricity network. Also, consumers' home appliances could be centrally controlled by power companies via the grid to have access to power generated by renewable energy at lower prices. A "unified strong and smart grid" system is to be built nationwide by 2020 to incorporate thermal power, hydroelectric power, nuclear power and other renewable ones. (Further details in source: [Global Times](#))



Intelligent power grid online by 2015

Large-scale construction of China's modernized electricity network or smart grid is slated to begin in 2011, according to the nation's power grid operator. The timeline for the comprehensive system - designed to increase the country's power transmission capabilities - will run from 2011 to 2015. The plan will include construction of ultra-high voltage power transmission lines, according to State Grid Corp of China, which is in charge of the power supply for 26 provinces, autonomous regions and municipalities in the country. Construction of the grid fits well with the country's efforts to build an environmentally friendly economy. (Further details in source: [China.org](#))

China to build 28 more nuclear power reactors by 2020

China, the world's second-biggest energy user, approved the construction of 28 more nuclear power reactors under a revised target for 2020 to meet rising demand for clean energy and to accelerate development of the industry. Details of the government's revised plan will be announced this year, China National Nuclear's President Sun Qin said on March 5. (Further details in source: [China Daily](#))

Transport (including aeronautics)

China's high-speed rail may link 17 nations

Less than two years after China's first high-speed railway went into operation, the country is now planning to extend its rail network beyond its borders, a project that will involve 17 nations. The international rail network will boost the exchange of trade and promote China's newly acquired high-speed railway technology. (Further details in source: [People Daily](#))

Beijing-Shanghai high-speed railway to open next year

The highly anticipated Beijing-Shanghai high-speed railway will begin operation next year, and is expected to cut travel time to four hours. Vice-Minister of railway Wang Zhiguo said it was expected that high-speed trains would one day take passengers from Beijing to most capital cities within eight hours, except for Haikou, Urumqi, Lhasa and Taipei. It is expected that an 110,000-km railway network will be completed by 2012, including 13,000 km of high-speed rail. China already has 6,552 km of rail track in operation - the longest amount of high-speed rail track in the world. Ultimately, China plans to construct a 120,000-km railway network, including 50,000-km of high-speed rail track, by 2020. (Further details in source: [People Daily](#))

Chinese-made good-sized copter debuts successfully

A Chinese-made helicopter for civil use with a maximum take-off load of 13.8 tons finished its test debut on 18 March. (Source: [China Daily](#))



Socioeconomic sciences and the Humanities

Psychological issues rising among students

The mental health of China's youngsters is on the decline, with 60 percent of college students feeling isolated and 80 percent feeling social injustice, a survey has suggested. Those feelings find their expression through irregular behaviour, skipping classes, autism and rebellion, and have also led to psychological problems like Internet addiction and suicide, according to a recent survey released by the China Population Communication Centre. (Further details in source: [China Daily](#))

CPPCC member: Beware of English invasion

With more and more publications mixing Chinese with English, measures and regulations should be adopted to avoid English invading Chinese, suggested Huang Youyi, director of the China International Publishing Group, who is also a member of the CPPCC National Committee and secretary-general of the Translators' Association of China. Highlighting the danger of Chinese culture becoming diluted and assimilated if the process continues, he warned: "In the long run, Chinese will lose its role as an independent linguistic system for passing on information and expressing human feelings." Huang was referring to a popular phenomenon in China, in which English words are interwoven in articles and conversations. Clarifying his stance, Huang said he was not only referring to the use of technical terms, but to the appearance of English names, places, people and companies in newspapers and other printed publications. "I'm not against using borrowed words," he added, "but they must be translated, either by their sounds or their meaning, into our native language, which is Chinese characters, or else Chinese have to learn English to understand what they read." (Further details in source: [People Daily](#))

China to set up huge vocal database for dialects, minority languages

China will develop an extensive vocal database for language resources in the next 10 years by recording local dialects and languages of ethnic groups, according to the State Language Commission. The vocal database project started in east China's Jiangsu Province in 2008. The final database would include data from 10,000 town-level communities. Li noted that the database would have other functions besides preservation, including providing local language services during emergencies. He cited the language problem encountered during the devastating Wenchuan earthquake in 2008. After the quake struck, the lack of knowledge about local dialects became a big obstacle when people nationwide dialed the hotline to inquire about their relatives. (Further details in source: [Xinhua Net](#))

"China model" result of determined leadership

By now, China's economic success over the last 30 years is an accepted fact and does not need the citing of statistics. But what are the main characteristics of the Chinese development model, and is it sustainable? It is not possible to define the Chinese development model in simple terms. It is really a process rather than a clear policy statement. Its origins lie with Deng Xiaoping, who famously said that one must "seek truth from facts" (and not from dogma) and that "It doesn't matter if a cat is black or white, so long as it catches mice." The model is unique, and has been developed in a country with a long history of civilization, a very difficult modernization experience and the largest population in the world. The key features are pragmatism, trial and error and gradual reform. The model is not based on ideology but practical steps, first testing the effectiveness of policies and then, when proven, implementing at a fast rate. However, overall the reforms are in fact gradual without any "big bangs." (Further details in source: [Xinhua Net](#))

China takes fresh look at urbanization

China will focus on improving the living conditions of farmers instead of encouraging them to move to urban areas. Given the fact that the nation's cities are not prepared to handle more residents from rural areas, the government will take measures to curb rampant urban expansion and preserve farmlands, said Qiu Baoxing, vice minister of housing and urban-rural development (MOHURD). Government statistics show that about 46 percent of China's population (600 million) live in cities, while 700 million are considered rural residents.

More and more residents in the countryside have been moving to cities ever since the economy started to boom. (Further details in source: [Global Times](#))

School killings reveal mental health woes

A man alleged to be mentally ill stabbed eight school children to death and injured five others in Fujian province, a tragedy which experts said once again points to inadequacies in the treatment of such people. Police arrested the man identified as Zheng Mingsheng, a former community doctor in Nanping city, born in 1968, a native of Nanping and used to work at the Mazhan community clinic before he resigned in June 2009. Zheng is said to have a history of mental illness, and local reports said he was fired by the community clinic for mental health problems. The latest tragedy again highlights the threat to social security posed by the lack of treatment for the mentally ill. Only one in five such patients gets professional treatment in the country, which has more than 16 million people suffering mental problems, experts estimated. They blamed low awareness of the possible danger and widespread discrimination against the mentally ill for the situation. A national mental health law, first drafted in the 1980s, aims to provide the mentally ill with legal protection and subsidized health care. Once passed, patients without family support will have access to free shelter and treatment provided by the government. Pang Yu, a doctor at Beijing Huilongguan Hospital, a leading psychiatric hospital in the country, said the legislation has been shelved because of the huge funds required. Currently, only a few prosperous provinces and cities such as Beijing, Shanghai and Guangdong have drafted regional regulations on mental health. Patients largely depend on families for help, financially and psychologically, Pang noted. "Without national legislation and government funding, the problem cannot be solved," he noted. So far legislation exists for only one disease, AIDS, for which patients have access to free treatment and drugs. That costs the central government several billion yuan each year, official figures show. (Further details in source: [China Daily](#))

Debate: Urbanization

China is urbanizing at an unprecedented pace, with over 43 percent of its population, or 560 million people, already living in cities today. But what does it all mean for employment and rural culture? China Daily interviews three academics for their views: Xiao Jianzhong, an expert with Hangzhou Academy of Social Sciences: Don't let rural culture die out; Su Qi, a Beijing-based commentator: Cities play role of safety valves for the jobless; and Zhao Zhihao, a research scholar in sociology with Shanghai's East China Normal University: Urbanize west to rebalance development. (Further details in source: [China Daily](#))

NDRC: Urbanization coverage to exceed 50%

The urbanization coverage during the 12th Five Year Plan (2011-2015) will exceed 50%, according to Li Shouxin, director of the department of development planning for NDRC. He said at a press conference that the urbanization coverage would see an annual increase of 0.8 to 1 percent during the next 10 to 15 years. By the end of 2009, China had urbanization coverage of 46.6%, with an urban population of 622 million. Li said 167 million of the urban population are migrant workers and called for better living conditions for the workers who contribute to the urban construction. (Source: [China Daily](#))

Experts: academic exchanges conducive to China-Africa co-op

Joao Manuel Bernardo, Angola's ambassador to China and acting dean of the African diplomatic corps, said Africa and China were on the right track for better understanding

between their peoples and the sharing of development experience with the launch of the China-Africa joint research and exchange programme. As part of the eight new measures announced by the Chinese government at the 4th Ministerial Conference of the Forum on China-Africa Cooperation (FOCAC) in Egypt in November last year, the programme, aimed at expanding people-to-people and cultural exchanges, will enable scholars and think tanks to increase exchanges and cooperation, share development experience, and provide intellectual support for improving cooperation policies. It would cover domestic and international seminars on China-Africa cooperation, joint monographic studies and research, and the publication of works on China-Africa relations. A board of government officials and scholars is expected to head the implementation of the programme. (Further details in source: [Xinhua net](#))

2010 Science Week to be Launched

2010 National Science Week will be held from May 15th to 21st with the theme of "Joining hands to build an innovation-oriented country". This year's Science Week will highlight conserving energy and resources, protecting eco-environment, and ensuring public health. Various activities will be organized to provide the public with popular science products and services so as to make demonstrations for national popular science undertaking. (Source: [MOST](#))

Space

Rocket to go to moon under design

Although there is no official timetable yet for China's moon landing, scientists are researching a new powerful carrier rocket with a lift-off thrust of 3,000 tons, Liang Xiaohong, vice-president of the China Academy of Launch Vehicle Technology, told China Daily. Designed for transporting heavyweight satellites and space stations, it is slated to take off in 2014. Besides the heavy-thrust carrier rocket under study, the academy is also developing a new family of carrier rockets for future space programs. (Further details in source: [China Daily](#))

China needs to develop core technologies of its own for space exploration

China's first lunar probe programme had been delayed as the country had to wait for the belated arrival of an imported component, Hu Hao, deputy director of the moon probe project said. "The delayed delivery of imported components for the project happened from time to time," said Hu. "Our efforts in space probe are affected by other countries due to our relatively weakness in technology." About 20 percent of components of China's first lunar probe, the Chang'e-1 satellite, were imported, and the chip used in the Satellite's CCD camera arrived more than six months behind the schedule, he said. He said that not all domestically-developed instruments can meet the special requirements for exploration in outer space. "To make breakthrough in fields like the aerospace projects, we must redouble our efforts in the research and development of core technologies and basic advanced components," he said. China sent its first lunar probe Chang'e 1 into space in 2007. Previous reports said China planned to launch the Chang'e-2, the country's second lunar probe, at the end of 2010. (Source: [Xinhua Net](#))

China launches new remote-sensing satellite

China has successfully put into orbit another remote-sensing satellite, "Yaogan IX" at 12:55 p.m. (Beijing Time) from the Jiuquan Satellite Launch Center in northwestern Gansu Province, according to a statement from the center on 5 March. The satellite was sent into space aboard a Long March 4C carrier rocket and would be used to conduct scientific experiment, carry out surveys on land resources, forecast grain output and help with natural disaster-reduction and prevention endeavour, it said. Its predecessor, "Yaogan VIII," was launched from Taiyuan Satellite Launch Center in northern Shanxi Province last December. (Source: [Xinhua Net](#))

Exotic Antimatter Detected at Relativistic Heavy Ion Collider: Heaviest Known Antinucleus Heralds New Frontier in Physics

An international team of scientists studying high-energy collisions of gold ions at the Relativistic Heavy Ion Collider (RHIC), a 2.4-mile-circumference particle accelerator located at the U.S. Department of Energy's (DOE) Brookhaven National Laboratory, has published evidence of the most massive antinucleus discovered to date. The discovery may help elucidate models of neutron stars and opens up exploration of fundamental asymmetries in the early universe. (Further details in source: [CAS](#))

Third unmanned moon probe set for 2013

China plans to launch its third unmanned probe to the moon, Chang'e-3, around 2013 and expects to complete the three-phase moon mission in 2017, said Ye Peijian, chief designer of Chang'e-1 and chief commander of Chang'e-2 and Chang'e-3. The Chang'e-3 mission will include an unmanned soft landing on the moon and the release of a moon rover to prospect the surface and interior of the moon. Chang'e-2 and Chang'e-3 are part of the second phase of the country's lunar exploration programme. The country will first launch the Chang'e-2 lunar orbiter, the country's second lunar probe, this October, and the missions in the following two phases will be to conduct a landing in 2013 with Chang'e-3 and a sample return in 2017. (Further details in source: [Global Times](#))

China's first two women astronauts selected

China has selected its second batch of astronauts, including five men and two women, the first time women astronauts have joined the country's space mission. The two women astronauts, both pilots from the People's Liberation Army (PLA) Air Force, might take part in manned docking of China's future space lab, said Zhang Jianqi, former deputy commander of the country's manned space programme. (Further details in source: [China Daily](#))

China to conduct maiden space docking in 2011

China will launch an unmanned space module, Tiangong-1, in the first half of 2011, and the Shenzhou-8 spacecraft in the second half of the year, to carry out the nation's first-ever space docking. The Shenzhou-9 and Shenzhou-10 spaceships, which are also expected to dock with Tiangong-1, would be launched in 2012, said Niu Hongguang, deputy commander-in-chief of China's manned space programme. (Further details in source: [Global Times](#))

Researcher to spend 520 days in Mars capsule

A Chinese researcher from China Astronaut Research and Training Center (CARTC) will spend 520 days living in intimate quarters with five other people from Russia, France and Germany to prepare for future safe landing on Mars. The six volunteers will live inside a

sealed capsule called "Mars-500" which takes about 520 days for a roundtrip train to Mars. A medical device used for Traditional Chinese Medicine will be taken into the capsule for data collection. It will take samples from the coating on the tongue and check pulse. (Further details from source: [Global Times](#))

IMHE Makes New Progress on UAV Aerial Remote Sensing Technology and Application

UAV (Unmanned Aerial Vehicle) Aerial Remote Sensing Technology has been applied by Chengdu Institute of Mountain Hazards and Environment (IMHE), CAS in investigation and data collection in Wenchuan earthquake, which made an important contribution to the remote sensing monitoring and assessment of Wenchuan earthquake. After Wenchuan earthquake in 2008, IMHE formed a UAV aerial remote sensing technology team and develop an UAV hardware platform and grand station software. Digital Mountain and Remote Sensing Applications Center was in charge of research and development of UAV technology. IMHE has gained great experience in UAV technology in the last two years. (Further details in source: [CAS](#))

People

Four German Doctoral Students Work at CAS/CTGPC Xiangxi River Ecological Station

Four doctoral students from Christian-Albrechts-Universität zu Kiel in Germany paid a visit to Institute of Hydrobiology, Chinese Academy of Sciences, to conduct a three-week scientific investigation along Xiangxi River, one of the main tributaries into the Yangtze River. The four German students, together with other researchers working at the ecological station, had an all-round and thorough survey of the river sediments resided in each cross section, the characteristics of river flow and river vegetation, land utilization and human-induced disturbances in the peripheral areas of Xiangxi River. Besides, the investigation team drew up the morphological features of each river cross section, thus providing latest data for future collaborative research. These four doctoral students were invited by IHB Prof. CAI Qinghua, who's also the station supervisor of Xiangxi River Ecological Station which was jointly built up by Chinese Academy of Sciences (CAS) and China Three Gorges Project Corporation (CTGPC). (Source: [CAS](#))



More experienced nuclear workers necessary

A shortage of experienced technicians is posing a grave challenge to China's nuclear safety as the country is rapidly expanding nuclear power plants, said Wang Yuqing, former director of the National Nuclear Safety Administration. "Experienced senior technicians currently comprise less than one-third of operating staff, while the rest of the positions are filled by new hands". Stressing that there has been a drop in the proportion of experienced technicians across all operating staff at nuclear plants, he attributed the disparity in the proportion of experienced technicians to operating staff to the rapid growth in the nuclear power industry. In addition to the lack of experienced operators, there is also a shortage of supervisors, according to Wang. There are currently about 300 official supervisors for nuclear power safety in China. In other countries, such as the US, France, and Japan, there are usually 35 to 40 people who supervise a single unit. (Further details in source: [China Daily](#))

Chinese go overseas for study up 27.5% in 2009

A total of 229,300 Chinese went overseas for study in 2009, up 27.5 percent year on year, according to the Ministry of Education. Among them, about 92 percent were funded privately and the rest went on national scholarships or were funded by companies and organizations. Also last year, 108,300 people returned from study abroad, an increase of 56.2 percent from the previous year. From 1978 to the end of 2009, the number of Chinese either studying or who had finished studying overseas, surpassed 1.62 million, of which 62.3 percent had returned home. (Source: [Global Times](#))

Record number of foreign students in China in 2009

China's Ministry of Education said on 22 March that the number of foreign students in the Chinese mainland reached more than 230,000 last year, the highest since the founding of New China, and up about 6.6 percent from the previous year. This figure was still far short of the 500,000 target for 2020, set in the country's draft medium-to-long-term education reform and development plan (2010-2020) that was put out for public response last month. The plan says China will be built into Asia's largest international student destination in ten years. The foreign students, from 190 countries and regions, studied in about 610 higher educational institutions last year. Among them, more than 18,000 students obtained scholarships provided by the Chinese government, up about 35 percent, it said, adding that the number of self-supporting students reached nearly 220,000, up 4.7 percent. About 68 percent of all the foreign students were from Asia, 15 percent from Europe, 10.7 percent from the Americas, five percent from Africa and more than 1.1 percent were from Oceania. The Republic of Korea, the United States, Japan, Vietnam, Thailand, Russia, India, Indonesia, Kazakhstan and Pakistan, were top ten in the student nationalities list. Over the past six decades since the founding of New China in 1949, about 1.69 million students across the world came to study in China. (Source: [Global Times](#))

Research infrastructures

Superconducting Magnet Technology Center Established in Weifang

China's first Superconducting Magnet Technology Center was established in Weifang City, Shandong Province on March 6th by Institute of High Energy Physics (IHEP) and the Weifang municipal government. Under the center, an Academic Committee was set up and held its first meeting. This committee was made up of 13 experts from CAS institutes and universities.

Present at the ceremony were officials from the Ministry of Science and Technology, the Chinese Academy of Sciences and Weifang City. (Further details in source: [CAS](#))

AIP Opens New Office in Beijing, China

The American Institute of Physics (AIP) announced that it is opening a new office in Beijing, the first part of a multi-phase plan to expand globally. The new AIP office is located in the Haidian District, in the center of the "Golden Triangle" of Beijing (comprising Tsinghua University, Peking University, and several major Institutes of the Chinese Academy of Sciences, including the Institute of Physics of the Chinese Academy of Sciences). The office will be headed by Xingtao Ai, a Ph.D. physicist with six years of experience at Science in China Press, a top Chinese publishing house. A graduate of the prestigious Tsinghua University and the University of Science and Technology in Beijing, Ai enjoyed a successful research career in China, Germany, and Canada prior to her career in scientific publishing. (Further details in source: [CAS](#))

Senior Chinese leaders applaud opening of national water museum

National Water Museum of China was opened on 22 March to mark World Water Day. The National Water Museum of China is located in the scenic, ancient city of Hangzhou in southeastern China, which is also at the southern end of the world's oldest and longest man-made waterway, the 1,794-kilometer-long Beijing-Hangzhou Grand Canal. (Further details in source: [Global Times](#))

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