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EURAXESS LINKS CHINA

Dear Colleagues,

Welcome to the October edition of the **EURAXESS Links China Newsletter**.

This month's **EU Insight** takes a closer look at the assessment of the European Research Area (ERA).

This edition also features an article drafted on the occasion of the tenth anniversary of the Helmholtz Association's Beijing Office. The Helmholtz Association is Germany's largest scientific organization. It looks back on 10 years of fruitful cooperation with China and it looks ahead to new promising fields for research collaboration in the future.

Following up on the very successful and first-of-its-kind *EURAXESS Science Slam China* organized this year, the movie of the final event which took place on 26 September in Beijing is now available [online](#). The winner, Dr. Yu Yang from Wuhan University, will leave to Brussels later this month to attend the "Raising Researchers' Voices - opinions on jobs, careers and rights" conference organized by EURAXESS on 21-22 November. More information can be found [here](#).

Regarding upcoming EURAXESS Links China activities, we now **invite all researchers and other stakeholders** who are members of joint research structures or interested in this form of cooperation **to register now for the 2nd EU-China Workshop on Joint Research Structures (JRS) In China**, 22 November 2013, Beijing. The registration deadline is 12 November.

Researchers and other R&I stakeholders active and interested in urbanization cooperation with China should consider registering for the **EU-China Urbanisation Forum (and in particular for the sub-forum on**



'Creative/Innovative Cities') to be held on 20 November 2013 in Beijing, in parallel to the EU-China Summit. Registration is possible until 6 November.

The end of November will also see the end of the Tour of China 2013, the last stages of the Tour being Nanjing (12 Nov.), Shanghai (14 Nov.) and, finally, Beijing on 20 November. We look forward to meeting those of you who are based in Nanjing and Shanghai at these occasions.

See the **Events** section for further details about all these upcoming events and more.

Of course you will also find, as usual, reports about recent developments in EU research and Sino-European research & innovation cooperation in the **News & Developments** section. Furthermore, we have collected information regarding currently open calls for internationally mobile researchers and international collaborations under '**Grants & Fellowships**' and job announcements under '**Jobs**'.

The **Press Review** includes many interesting news this month, on both China's research and innovation policy (like for example the report by Finance Minister Lou Jiwei, pushing for reforming the Chinese research funding system, focusing more on basic research and on local governments and enterprises' financial support) and Chinese research activities.

Wishing you a pleasant read,

With best regards,

Jacques de Soyres

[EURAXESS Links China](#) Country Representative

About this newsletter

EURAXESS LINKS CHINA NEWSLETTER is a monthly electronic newsletter, edited by EURAXESS Links China, which provides information of specific interest to European researchers and non-European researchers in China who are interested in European research landscape and conducting research in Europe or with European partners.

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 of the Delegation of the European Union to China.

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

Editor: Jacques de Soyres,
Country Representative of
EURAXESS Links China



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1 EU Insight – ERA assessment

The first Progress Report on the European Research Area was published in September 2013. Its key findings concur with the conclusions drawn in an article by Chessa et al, published in *Science, Policy Forum* earlier this year and conclude that “there is a different degree of completion of ERA at national level and that more coordinated efforts between MS could contribute to improving both European excellence and national effectiveness”. Here, we present some of the key findings of the article based on different indicators from those of the Progress Report and some concluding remarks.

The **European Research Area (ERA)** is an initiative from the European Commission that seeks to integrate scientific and technological capacities within the EU in order to improve Europe’s competitiveness at the global level. ERA is part of the Lisbon Strategy adopted in 2000 and meant to become an equivalent to the European “common market” for research and innovation, achieved by an increase in transnational cooperation and more competition within the EU research systems.

Assessment of the degree of completion of the ERA goals

In order to assess the degree of completion of the ERA goals, Chessa et al analyzed some key indicators in a study published earlier this year. They built a geographical collaboration network from patent and scientific publication data in order to compare R&D activities within the EU and R&D activities within other OECD countries. The comparisons were based on five different networks, including (i) the patent co-inventor network and (ii) the publication coauthor network to measure the intensity of interregional collaboration at the individual level; (iii) the co-applicant patent network to measure the collaboration between institutions (“applicants”) located in different regions, (iv) the patent citation network to measure scientific integration by following the flow of citations from patents in one region to patents in another, and (v) the patent mobility network to measure the mobility of inventors by tracking their location in subsequent patents. The network analysis of co-patent activities is shown in Figure 1 and reveals similar developments for EU and non-EU regions:

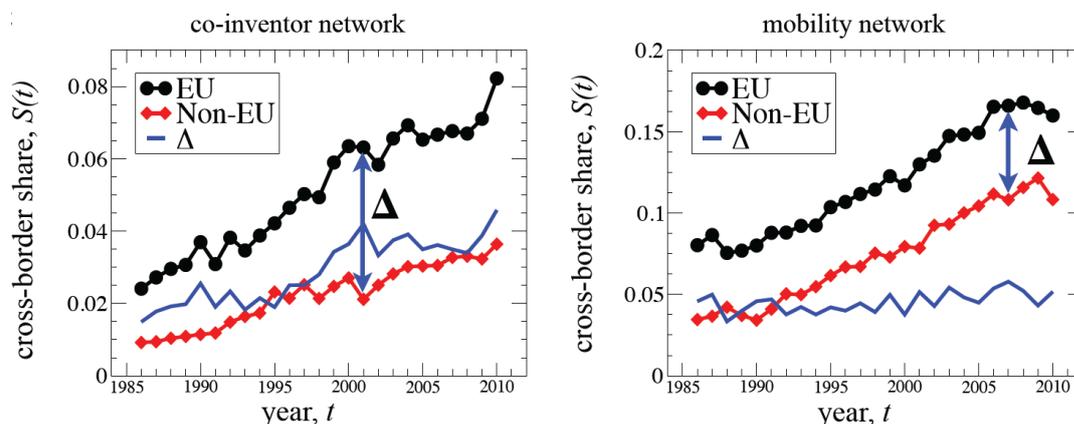


Figure 1: Annual cross-border share of the co-inventor and the mobility network in EU (black symbols) and non-EU (red symbols) areas. The increase in both networks over time reflects the well-documented trend in the global patent activity. The difference between the EU and the non-EU data suggests that the overall increase in the co-inventor and mobility networks does not correlate with the EU policies [1].



The community structures derived from network clustering algorithms are presented in Figure 2. A comparison between the community structures in the EU and the US shows that long-distance scientific community structures are still far more prominent in the US, while most European co-inventor clusters align with the national borders. Two exceptions within Europe include the transnational clusters centered around Eindhoven and around Copenhagen, comprising the Benelux states and the Nordic countries, respectively.

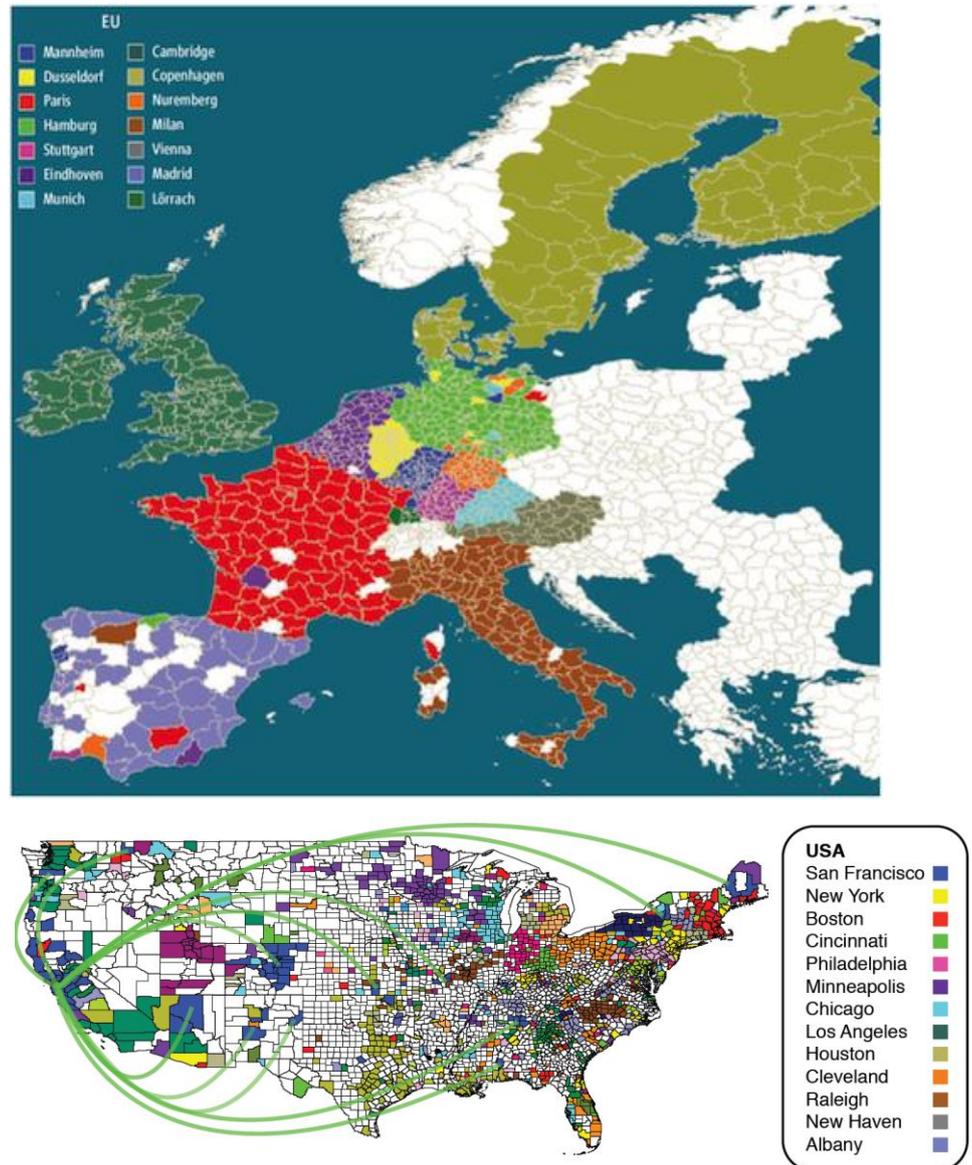


Figure 2: Representation of community structures of the 2009 EU-15 and the US co-inventor networks, top and bottom, respectively. Communities (color blocks) are labeled by their most-central region. Green arcs highlight some of the long-distance members of the community for which San Francisco is the core region. For the US, only the top 13 communities are shown [1].



Concluding Remarks

Both documents, the Progress Report and the study conducted by Chessa et al provide evidence that more work remains to be done in order to implement the ERA successfully. However, quantifiable indicators have been identified to assess the progress of the ERA. This will provide us with scientific-based policy recommendations, as pointed out by Commissioner Máire Geoghegan-Quinn [5]:

“I am convinced that ERA policy and structural reforms can only be based on a monitoring mechanism providing accurate information on national policies and on their implementation by research funding and research performing organisations. Like our science, our policy making will only be as robust as the evidence used to underpin it. I urge all Member States and relevant stakeholders to support further this evolving monitoring process.”

Sources:

- [1] Chessa et al. Is Europe Evolving Toward an Integrated Research Area? *Science* (2013) **339**, 650-51
- [2] [ERA Progress Report Overview](#)
- [3] [ERA Progress Report](#)
- [4] [ERA Progress Report: Facts and Figures](#)
- [5] [Press Release from the European Commission: ERA Progress Report](#)



2 Feature

Helmholtz Association Beijing Office celebrates its tenth anniversary



Helmholtz Association Beijing office 10th Anniversary Celebration

The German Helmholtz Association is Germany's largest scientific organisation.

Just shortly after the opening of the Brussels Office, the Beijing Office was established as second international office. It has reinforced the bilateral intensive collaboration between Helmholtz and the leading Chinese scientific institutions, and has encouraged the formation of a diverse and constantly expanding network of German-Chinese research partners. To mark its ten-year anniversary in China, the Helmholtz Association invited over 230 research partners and distinguished science representatives from both nations to a celebration on October 11 at the Sino-German Center for Research Promotion in Beijing.

“Establishing the Beijing Office enabled the Helmholtz Association to bring together two very different research cultures in just a few years,” said Jürgen Mlynek, President of the Helmholtz Association. Back in 2003, he explained, it was already clear that only cross-national efforts could provide solutions to global challenges, that is international-level research involving strong partners from many different countries. “We have a lot of research interests in common, for example within the field of large-scale infrastructures,” he said – just this spring, China published a roadmap for the operation of its research infrastructures. This is the perfect opportunity, said Mlynek, to intensify the cooperation even further and to exchange ideas on how best to work on these sorts of structures.

A ten-year partnership

“China has become an important strategic partner for the Helmholtz Association,” said Hong He, head of the Helmholtz Beijing Office. “Both countries can benefit from one another – and especially from the huge potential of excellently trained researchers and China’s wealth of natural resources.” Furthermore, he added, China’s swift economic growth and enormous scientific and technological expertise are very attractive to Germany.

The Beijing Office does not, however, simply serve as a liaison office between the research systems of both countries, it also works to forge new German-Chinese links between research and commerce. To expand its existing network, the Helmholtz Beijing Office informs German research partners about China’s political system, job market, academic opportunities and research projects. The Beijing Office works to increase Chinese research partners’ awareness of the Helmholtz Association, with its excellent research conditions and unique infrastructure, and to let the scientific community know about the Helmholtz’s



cast-iron reputation for providing high-quality training of talented young researchers and undertaking challenging research projects.

A fruitful partnership

The success of the collaboration is reflected in the growing number of Chinese researchers working for the Helmholtz Association – more than 700 now work at the various Helmholtz Centres, making them the largest community of foreign researchers. Between them, they carry out research across all six Helmholtz research areas: Energy, Earth and Environment, Health, Key Technologies, Structure of Matter, and Aeronautics, Space and Transport. The association's Chinese partners include many institutes in the Chinese Academy of Sciences (CAS), universities and government institutions. Since 2012, the Helmholtz Association, started to cooperate with its strategic partner CAS by jointly selecting and supporting 5 Helmholtz-CAS Joint-Research Groups on an annual basis, representing all the 6 major research areas.

Looking forward

“Over the past ten years, both partners have strengthened their common basis,” remarked Mlynek. “To further consolidate these foundations, we are launching five more collaborative projects at the anniversary celebration today.” Helmholtz announced during this event the joint effort for the foundation of a Sino-German Research Centre for Environmental Sciences. This project would be firstly sponsored under the framework of Helmholtz International Research Network, an initiative for promoting joint research projects between Helmholtz Centres and strategic research partners from around the globe. In addition to this, four Helmholtz Research Centres took this opportunity to sign an MoU and an agreement with their Chinese partners: In the research area of Health, the Helmholtz Centre for Infection Research (HZI) and the Helmholtz Institute for Pharmaceutical Research Saarland (HIPS) are establishing a biotechnology institute in collaboration with Shandong University in China. The Helmholtz Centre Potsdam is embarking upon a partnership with the China Academy of Space Technology (CAST). The Deutsche Elektronen-Synchrotron (DESY) and the Office of the National Administrative Committee of Postdoctoral Researchers in China (ONACPR) have signed a joint agreement to support the promotion and training of Chinese postdocs, while the Helmholtz Centre for Environmental Research is entering into close collaboration with the Chinese Research Academy of Environmental Sciences.



Dr. Hong HE
Chief Representative
Helmholtz Association of German
Research Centres
Dongsanhuanbeilu 8, LandmarkTower
2-1723
Chaoyang District, Beijing 100004
Tel:+86-10-65907866, Fax:+86-10-
65907867
hehong@helmholtz.cn,
www.helmholtz.cn
SKYPE: hehong-beijing



3 EURAXESS Links Activities



EURAXESS Science Slam China 2013 Finals – The movie!

The 1st EURAXESS Science Slam China was organized this year. This event, one of the first of its kind to be held in China, was a big success, with young researchers from all over China taking part in the pre-selection round and 6 of them qualifying for the final that took place in Beijing on the evening of September 26.

The [movie](#) of this memorable evening can now be watched online and downloaded from the [EURAXESS Links China website](#).

Given the success of this first experience, in China, but also in all the other EURAXESS Science Slams, the event is expected to take place again next year.

We already look forward to making it an even more exciting event, with more participants, more t-shirts and more excellent and creative science presentations. Stay tuned for the EURAXESS Science Slam 2014!



Last Minute Event Alert!

A 2nd Researchers' Night is in the making, probably for end of November in Beijing, details will be sent through the EURAXESS Links China network soon!



4 News & Developments

4.1 EU & Multilateral Cooperation

Fruitful EU-China experts' seminar on Food, Agriculture and Biotechnologies (FAB) held in Beijing on 10-11 October 2013

The primary objectives of the experts' seminar organized by the European Union Delegation to China, the Chinese Academy of Agricultural Sciences, the China Agricultural University with the support of MoST and the contribution of the Dragon Star project and EURAXESS Links China, was to contribute to the development of a joint EU-China initiative for cooperation in research and innovation on FAB.

The experts' seminar discussed both specific horizontal and thematic questions. The themes covered were:

- Targeted areas for cooperation in food related science, including food waste
- Targeted areas for cooperation in sustainable agriculture, including
 - Integrated Pest Management and biological control; organic and low input farming systems; water and soil management
 - Animal husbandry
 - Urban Agriculture (contribution to flagship initiative on sustainable urbanization)
- Targeted areas for cooperation in the biotechnologies

The China Agricultural University (CAU), member of the [Dragon Star project](#) (FP7), has hosted the event and supported the production of [background documents](#).

The experts' seminar reported its conclusions to the 3rd EU-China FAB Task Force meeting that took place in the afternoon of the 11th of October 2013, under the auspices of the EU-China S&T Agreement Steering Committee co-chaired by the European Commission's DG-Research on behalf of the EU and by MoSt on behalf of China.

Joint reports of both the seminar and the task force meeting will be produced containing recommendations for priority areas for future joint calls in the area of FAB. The recommendations are expected to be taken up in a letter of intent signed by the task force parties and to be published soon on the EU Delegation to China website.



EU-China experts' seminar on Food, Agriculture and Biotechnologies (FAB), Beijing 10-11 October 2013



Nobel Prize in Physics 2013 goes to Belgian Professor François Englert and British Professor Peter Higgs

Belgian Professor François Englert and British Professor Peter Higgs received the Nobel Prize in Physics 2013 for their work that led to the idea of a mass-giving particle, almost fifty years after they first published their theories.

The Nobel Committee in Stockholm announced on 8 October 2013 that the two European theoretical physicists would share the EUR 900 000 prize for 'the theoretical discovery of a mechanism that contributes to our understanding of the origin of mass of subatomic particles'.

Prof. Higgs, 84, said in a statement released by the University of Edinburgh, where the Higgs Centre for Theoretical Physics is based: 'I hope this recognition of fundamental science will help raise awareness of the value of blue-sky research.'

Both scientists, working independently, published in 1964 separate scientific articles related to the mechanism that governs mass in subatomic particles.

Prof. Englert, 80, with his now deceased friend and colleague Professor Robert Brout, from the Brussels Free University, were the first to publish; Prof. Higgs did the same some weeks later.

About 20 years on, work started on the world's biggest particle smasher which would confirm their findings. The 27 kilometre Large Hadron Collider (LHC) under the border between Switzerland and France accelerates beams of particles using electric fields and then smashes them together to examine the basic particles that result from the impact.

Three years after the EUR 3 billion LHC was completed, the European Organization for Nuclear Research (CERN) announced that it had discovered a particle that might be the Higgs boson. Since then it has released new data that indicates the new particle is a Higgs boson.

European Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn, congratulated both physicists, and paid tribute 'to the thousands of scientists who have worked tirelessly at CERN over many years to detect this elusive particle'.

Source: [Horizon](#)

Commissioner Geoghegan-Quinn welcomes Hefei Statement on Research Universities

European Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn has today welcomed a statement from organisations representing many of the world's leading research universities. The '[Hefei Statement on the ten characteristics of contemporary research universities](#)' sets out how and why research universities fulfil their long-term mission in research and education. The statement also calls for government policies that support existing research universities in these goals, and help develop research universities where they do not exist. The statement was signed by the League

Professor François Englert (L) and Professor Peter Higgs (R) at their first meeting at CERN in 2012. Image courtesy of CERN.

HORIZON - the EU Research & Innovation Magazine is written by independent journalists on behalf of the European Commission's Directorate-General for Research and Innovation. It aims to communicate the priorities and achievements of EU-funded research, its impact on citizens' lives and its contribution to the EU goals of smart and sustainable growth. The e-magazine also offers a space for guest writers to express their views on EU research and innovation.

<http://horizon-magazine.eu>



of European Research Universities (LERU), the Association of American Universities (AAU), the Consortium of China 9 Research Universities (C9), and the Group of Eight Australia (Go8), at the annual meeting of the C9 universities in Hefei, China.

Commissioner Geoghegan-Quinn said: "This is a welcome initiative from LERU and its partners, who together represent a very significant proportion of global research. [...] The European Commission will continue its commitment to funding frontier research in our next research and innovation programme, [Horizon 2020](#). This includes a massive boost in funding to the [European Research Council](#), one of the premier funders of blue-sky research worldwide. Through the European Research Area and Innovation Union, the European Commission also supports the framework conditions in which research and innovation can thrive."

Source: [European Commission](#)

EU Research Highlight - Save energy: Commercial Cooler chills Beverage in just 50 seconds!

Commercial fridges and freezers keep food fresh and beverages cool. They are vital to modern commerce but troublesome for the environment. European industrial researchers set out to turn these power-hungry machines into a green technology of the future. The trademarked 'V-Tex' cooler they developed can chill a standard-sized beverage in under a minute. This is super-fast and means small quantities can be chilled on demand, saving huge amounts of energy.

This new technology developed by the EU-funded RapidCool project, by taking away the need for heavily stocked chillers to run continuously in order to supply 'cooled' drinks during business hours has attracted considerable interest from beverage-makers.

The project's trademarked V-Tex technology recorded energy savings of 80-90% compared with open-front commercial refrigerators. Their modular system is easy to clean (and thus to meet hygiene standards), simple to use, and has enhanced safety functions.

Game-changing green technology like this could have a direct impact on the EU's 2020 commitment to reducing energy use and greenhouse gas emissions while improving overall energy security, the team suggests.

EU Member States are preparing a combination of voluntary and mandatory initiatives to force a step change in energy consumption and the use of commercial refrigerated equipment. Probably the most prominent of these is the Energy Using Products (EUP) Directive which is expected to enter into force in 2014.

Read more in source: [European Commission](#)



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EU Research Highlight - Stronger and longer-lasting Tuberculosis Vaccines



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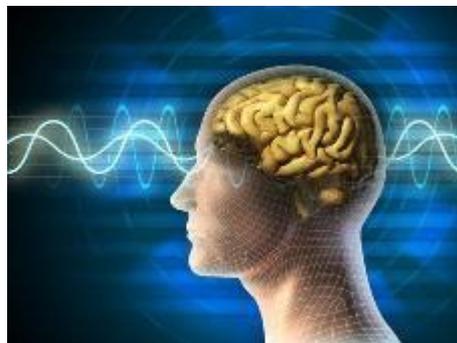
Perceived by the general public as a disease that largely has been tamed, tuberculosis kills about 1.5 million people worldwide each year – including an average of one person every seven hours in Europe. Faced with 9 million new infections annually, and mutating strains of the tuberculosis bacteria that confound the medical community, a high-profile European Union research project is working to coordinate the development of stronger, longer-lasting vaccines.

The EU-funded NEWTBVAC project has helped advance 7 of the 14 tuberculosis (TB) vaccine candidates currently in clinical trials. Another 36 vaccine candidates are in the discovery phase or pre-clinical development. These advances bring hope to countries such as China, India, Indonesia and South Africa, where up to four people per 1,000 have the airborne disease.

The NEWTBVAC project is coordinated by the TuBerculosis Vaccine Initiative (TBVI) in the Netherlands. Part foundation and part network, TBVI is a non-profit organisation - set up at the suggestion of the European Commission - that is working to facilitate the development of new TB vaccines that are accessible and affordable for all people.

Read more in source: [European Commission](#)

EU Research Highlight - Robotic Arm controlled by the Power of the Mind



© Andrea Danti - shutterstock

A robotic arm developed by a team of European researchers goes some way towards giving severely paralysed people some independence. The arm can be controlled intuitively, meaning the person just has to think about using their arm for it to move.

Both able-bodied and disabled individuals were able to grab objects from a table in tests at the end of the project – a level of movement previously only achieved using invasive brain computer interfaces (BCIs).

The results of EU-funded project Brain2Robot ('A Robotic-Arm Orthosis Controlled by Electroencephalography and Gaze for Locked-In Paralytics') are extremely promising, and involve very little risk for disabled persons as the technology is non-invasive.

The project, led by Munich-based Fraunhofer-Gesellschaft, opened up a new line of research in robotics and BCI. The results also point the way to new research into basic questions about motor physiology, brain function and organisation.

The research blended human motor physiology with engineering to create a BCI guided by eye and head movements as well as a conventional electroencephalogram (EEG) – the type used in routine clinical procedures to measure electrical activity along the scalp. Electrodes pick up the brain's signals, which are then amplified and transmitted to a computer.



The team made advances here, developing dry contact electrodes that can be applied within minutes and used repeatedly – a much easier process than for standard EEG recording equipment, which needs liquid gel to be expertly applied to the contacts.

Together, the Brain2Robot components are able to detect changes in brain activity triggered purely by someone thinking about a particular behaviour. The components can distinguish between neural impulses corresponding to the idea of moving the right or left hand. The neural signal patterns are then converted into control commands for the computer.

Read more in source: [European Commission](#)

EU Research Event - InfoDay on 2014 Calls HORIZON 2020, Societal Challenge 5: Climate Action, Environment, Resource Efficiency and Raw Materials, 12 November 2013, Brussels & Online

The European Commission (Research & Innovation DG - Directorate Environment) is organising an InfoDay on 12 November on the Horizon 2020 Societal Challenge 5: Climate Action, Environment, Resource Efficiency and Raw Materials.

The event aims to highlight the novelties of the 2014-2015 Work Programme and will provide guidance on the preparation and submission of proposals.

This InfoDay covers only 2014 topics. A separate InfoDay for 2015 topics will be organised at a later stage.

Please note that the registration to attend this event is closed. But that **you can watch this event live [online](#)**.

More details and the agenda of the event is available on the [European Commission website](#).

For more information regarding the European Commission's international research cooperation activities worldwide, read the [European Commission's monthly "International Research Update"](#).

4.2 EU Member States*, China & Bilateral Cooperation

Denmark - Large new Innovation Foundation to solve Societal Challenges and create Jobs

Info

* Including countries associated with the 7th Framework Programme.



Denmark now has a new, powerful innovation foundation known as "Denmark's Innovation Foundation - the foundation for strategic research, advanced technology and innovation".

The Danish government and political parties, Venstre (the Danish Liberal Party), Dansk Folkeparti (the Danish People's Party), Enhedslisten (the Red-Green Alliance), Liberal Alliance and Det Konservative Folkeparti (the Conservative People's Party) have agreed on a revision of the research and innovation system to ensure that public investment in research and development will contribute even more to finding solutions to societal challenges and create growth and employment.

The foundation is expected to have an annual budget of DKK 1.5 billion and will be created by amalgamating the Danish Council for Strategic Research, the Danish National Advanced Technology Foundation and the Danish Council for Technology and Innovation into one foundation.

Minister for Science, Innovation and Higher Education Morten Østergaard is extremely pleased with the broad backing of the agreement.

The new foundation will particularly support the need for new solutions in Danish companies, as well as the new societal innovation partnerships that evolve from global societal challenges and which launch from 2014.

The new foundation will be based on societal and commercial needs and work will be carried out at arms-length from the political system.

Read more in source: [Danish Ministry of Science, Innovation and Higher Education](#)

Denmark - Denmark Days attract 1,200 Chinese students

On September 12th and 17th Top Talent Denmark held the event "Denmark Days" at Fudan and Peking University. With a large attendance of approximately 1,200 engaged Chinese students from universities in Shanghai and Beijing, Denmark Days showcased the best of Danish education and career opportunities for Chinese students.

Nine Danish higher education institutions and five Danish companies were present as well as the Danish Minister for Higher Education, Morten Østergaard.

The career and education fair "Denmark Days" is organised by Innovation Centre Denmark, as a part of the official Danish programme "Top Talent Denmark". Top Talent Denmark is a new and unique "one stop-shop" for Chinese students interested in pursuing a Danish career. Through a range of offline and online activities, the initiative connects Chinese students and young professionals with Danish higher education institutions and companies and offers them a single platform to learn more about their Danish study and career opportunities. Denmark Days is the biggest event under Top Talent Denmark.

Further details in source: [Denmark in China](#)



Danish Minister for Science, Innovation and Higher Education, Morten Østergaard, holding the opening speech for Denmark Days at Peking University.



France - Launch of new Sino-French Institute on Innate Immunity in Guangzhou

Integrated to Guangzhou Medical University (GMU), this institute will be called Sino-French Hoffmann Institute, from the name of French medicine Nobel prize winner Mr. Jules Hoffmann.

This new institute will be co-directed by Professor Hoffmann, GMU president Prof. Wang XinHua and member of the Chinese Academy of Engineering and discoverer of the coronavirus (SRAS virus) Prof. Zhong Nanshan.

The institute will support the launch of joint research projects and aims to quickly become an international reference.

After the official inauguration of the institute on 12 October, the 2nd edition of the international symposium on innate immunity took place with over 200 participants attending.

Source: [La France en Chine](#)

France - Arkema opens its biggest R&D centre in China

The French chemical company built its new R&D centre in the city of Changshu, 120 km west of Shanghai. The official inauguration ceremony took place on 18 October, in the presence of Arkema CEO Mr. Thierry Le Hénaff and Changshu Mayor Mr. Wang Yang.

The new centre will focus on the development of new solutions for new energies, cables, electronics and the automobile industry.

Source: [La France en Chine](#)

France - Launch of the 2nd Phase of the Saint-Gobain R&D centre in Shanghai

The inauguration ceremony took place on 26 September in the presence of Saint-Gobain CEO M. Pierre-André de Chalendar. With this 2nd phase, 8500 sqm. will be added to the 5500 sqm. already built during the 1st phase of the Saint-Gobain Research Centre (SGRC) development.

The SGRC is one of the company's seven R&D centres worldwide with transversal functions. It employs currently 250 staff members, a number which is expected to reach 400 in 2015.

Source: [La France en Chine](#)



Arkema R&D Centre China



Launch of the 2nd Phase of the Saint-Gobain R&D centre in Shanghai



France-Germany - First meeting of the German-French R&D Club

This first meeting of the German-French R&D Club took place on 26 September at the German Centre in Shanghai within the framework of the Elysee Treaty 50th Anniversary celebrations, a treaty which established the foundations for German-French scientific cooperation.

This meeting was opened by the French Ambassador to China and the German Consul in Shanghai and tackled 5 different topics: the European research funding programme Horizon 2020, the UMI Solvay/CNRS joint research structure, the partnership between the Max-Planck-Gesellschaft and CAS, the stakes of partnerships between private R&D centres and universities, and the digital strategy of R&D centres based in China.

The meeting brought together around 30 leaders of French and German R&D centres based in the Shanghai region and provided a good opportunity for participants to network and to strengthen the links between research and French and German companies active in China.

Source: [La France en Chine](#)

Germany - 16th Meeting of the Joint Committee of the Sino-German Center for Research Promotion held in Beijing

The 16th Meeting of the Joint Committee of the Sino-German Centre for Research Promotion was held on September 27, 2013 at the Sino-German Centre for Research Promotion. The Chinese and German members of the Joint Committee, representatives of NSFC and DFG and staff members of the Sino-German Centre attended the meeting. The Chinese members of the Joint Committee include NSFC Vice President Liu Congqiang, NSFC Vice President He Minghong, Professor Shen Wenqing and Professor Lai Maode. The German members of the Joint Committee include Professor Ferdi Schüth, Vice President of the DFG and the German Chairman of the Joint Committee, Ms. Dorothee Dzwonnek, Secretary General of DFG, and Dr. Herald von Kalm, Deputy Secretary General of DFG. According to the convention of the Joint Committee Meeting, Professor Liu Congqiang chaired the meeting. Heads of NSFC and DFG introduced the latest development of the two organizations first. Prof. He Minghong briefed the key work of NSFC in 2013 on behalf of the NSFC. Members of the Joint Committee examined and approved the 2012 working report, financial report and audit report of the Sino-German Centre for Research Promotion. They also discussed the Centre's budget for 2014 and other issues. The Joint Committee gave a high appraisal to the work accomplished in 2012 and provided strategic guidance to future work of the Centre.

Source: [NSFC](#)



16th Meeting of the Joint Committee of the Sino-German Centre for Research Promotion



Iceland – Iceland and China willing to expand S&T cooperation

China is willing to expand cooperation with Iceland in multiple areas, Chinese Vice Premier Ma Kai said in Reykjavik on Sunday 27 October. "China is willing to expand pragmatic cooperations with Iceland in fields of economy, trade, geothermal energy, Arctic research, environment, science and technology and social development," Ma said when he met with President of Iceland Olafur Ragnar Grimsson. "China and Iceland have been genuine friends based on mutual trust and support, and reliable partners for mutually-beneficial cooperations on an equal basis," said the Chinese vice premier. The constantly advancing cooperations, including the bilateral free trade agreement signed earlier this year, would certainly propel the bilateral relations into "an all-new stage," he said.

Grimsson said that he believed the bilateral relations would advance faster and better, based on true friendship, especially given the multiple economic, trade and financial cooperations China had with Iceland during the financial crisis.

Further details in source: [China Daily](#)

Sweden - Swedish Minister for IT and Energy on visit to China, signed Sino-Swedish Action Plan regarding cooperation on sustainable vehicle development

The Swedish Minister for IT and Energy, Ms Anna-Karin Hatt, was in China for an official visit between 8 -12 of October, accompanied by a Swedish business delegation within the two fields.

Minister Hatt arrived in Hong Kong, where she met with the Hong Kong Secretary for the Environment, Mr. Wong Kam-sing.

A seminar on "Energy from Waste in China" was then organized in Guangzhou on Wednesday 9th of October by Business Sweden, the Embassy of Sweden, the Swedish Consulate General in Hong Kong and the Government Offices of Sweden. While in Guangzhou, the Minister also made a visit to the headquarters of Huawei.

In Beijing Minister Hatt had bilateral meetings with the Ministry of Industry and Information Technology (MIIT), the Ministry of Transport and the National Energy Administration. A Sino-Swedish Action Plan regarding cooperation on sustainable vehicle development was signed by Minister Hatt and the Minister of Industry and Information Technology, Mr Miao Wei. In the Action Plan five areas are defined to be of particular interest for cooperation: vehicle safety, vehicle environmental protection, vehicle energy saving and fuel economy, electrification of vehicles and vehicle innovation process.

Finally, on Friday 11th of October Minister Hatt held a lecture on the topic "ICT policies for a brighter future – the Swedish way" at Tsinghua University as part of the "Tsinghua Global Vision Lectures" series – a series of lectures given by country leaders, Nobel Laureates, world's leading entrepreneurs, university



presidents, and outstanding experts in a wide range of fields to educate students with global perspectives.

Source: [Sweden Abroad](#)

Sweden - The 3rd China-Sweden S&T Cooperation Joint Committee held in Beijing

The meeting, held on 18 September in Beijing, was co-chaired by Deputy Director General Chen Linhao of the Chinese Ministry of Science and Technology Department of International Cooperation and Director General Katarina Bjelke of the Swedish Ministry of Education and Scientific Research Department of Science Policy. Both sides presented their recent science, technology and innovation policies, and reviewed the bilateral cooperation achievements. Agreement was reached on the list of candidate projects for the joint green innovation project. In addition, both sides discussed cooperation in the new areas such as the joint antibiotic resistance research and the polar research, as well as future potential cooperation areas including sustainable development, clean technologies, life sciences, and so on.

Source: [MOST](#)

UK - £7 million funding boosts UK China Science and Innovation relationship



The Rt Hon David Willetts MP, UK Minister for Science and Universities, announced £7 million of UK China research and innovation funding during his visit to China with the Chancellor of the Exchequer to participate in the UK China Economic and Financial Dialogue.

The UK China science and innovation relationship is going from strength to strength, as demonstrated by the fact that there are currently £47 million of jointly funded UK China research programmes. The Minister spoke to journalists during a visit to Beijing Machine Tools Institute on Monday, where he announced new figures which show that in 2011 the UK overtook Japan to become second only to the US in the number of its joint research publications with China.

The Minister announced three major collaborative UK-China joint programmes, totalling over £7 million of co-funding from the UK Research Councils, the Technology Strategy Board and Chinese partners.

- A new investment of £3 million from the UK's innovation agency the Technology Strategy Board, Research Councils UK (RCUK), and the Chinese Ministry of Science and Technology will be used to support research and innovation partnerships in the area of sustainable manufacturing. This is the first collaboration of its kind between RCUK, the Technology Strategy Board and an international partner outside Europe, and will support the development and commercialisation of innovative approaches to sustainable manufacturing.

UK Minister for Science and Universities Rt
Hon David Willetts MP



- RCUK and the National Natural Science Foundation of China (NSFC) to jointly commit up to £4 million in collaboration to fund a second phase of stem cell research between leading scientists from UK and China. Leading experts from China and the UK met in Shanghai this month to review the UK-China partnership and establish the next phase of our partnership.
- RCUK and Chinese Academy of Sciences (CAS) are pleased to co-fund 5 UK-China partnering awards which will support development of collaborations between leading UK and Chinese researchers in the area of synthetic biology. £250,000 of funding will be used to support collaborative activities such as exchange of early career researchers, workshops, reciprocal access to facilities, networking and travel over a 3-4 year period. This is the first time Biotechnology & Biological Sciences Research Council (BBSRC) and Engineering & Physical Sciences Research Council (EPSRC) have run a joint funding call with CAS and it is hoped that this will form a strong foundation for further joint working with China in the future.

The Minister met with Vice Minister Cao Jianlin of the Ministry of Science & Technology of the People's Republic of China (MoST) on Monday and both sides agreed to strengthen bilateral innovation collaboration.

The Minister also announced the launch of a new report on China's innovation landscape, by the UK's innovation foundation Nesta. The report, titled 'China's Absorptive State', includes new statistics which show that the UK is now China's second largest research partner in terms of co-publications, and recommends that the UK and China develop a new five year strategy for collaboration in research and innovation to harness the huge potential in this area.

Source: [GOV.UK](http://gov.uk)

UK - Government gives go ahead to Chinese companies taking a stake in British nuclear power

The Chancellor, George Osborne, has announced on 17 October that the government is to give the go ahead to Chinese companies taking a stake - including potential future majority stakes - in the development of the next generation of British nuclear power.

He made the announcement at Taishan nuclear power station in Southern China on the final day of his visit to China. Taishan is a collaboration between French energy company EDF and the China General Nuclear Power Company.

While any initial Chinese stake in a nuclear power project is likely to be a minority stake, over time stakes in subsequent new power stations could be majority stakes. Any investment from any country has to comply with rigorous regulatory standards for safety and security.

Today's announcement follows the signing this week in Beijing of a new memorandum of understanding on civil nuclear collaboration witnessed by the



Chancellor and his Chinese counterpart, Ma Kai. It was signed for the UK by the Commercial Secretary to the Treasury, Lord Deighton.

The memorandum sets the strategic framework for collaboration on investment, technology, construction and expertise. The 17th of October announcement is the first step and signal by the UK government as part of this memorandum of understanding.

The memorandum was signed as part of the Economic and Financial Dialogue (EFD) between the two countries, and forms the centrepiece of the Chancellor's visit.

As well as supporting Chinese investment in Britain, the memorandum will make sure that British companies such as Rolls Royce, International Nuclear Services (INS) and engineering companies like Mott MacDonald can be part of China's multi billion pound new nuclear programme.

As part of this, the Chancellor has announced that the UK based International Nuclear Service has signed a Memorandum of Understanding with the Chinese Nuclear Power Engineering Company Ltd this week, to share UK experience on radioactive waste management, and will start with some initial training activities for Chinese technicians in the UK later in October.

Source: UK.GOV

UK - Chancellor welcomes investment commitments from two of China's internet giants

On the latest leg of his trip to strengthen economic ties between Britain and China, on Wednesday 16 October, the Chancellor has welcomed investment commitments from two of China's internet giants – Huawei and Reko – confirming the UK's status as a world centre for digital innovation.

Huawei have confirmed plans for a new \$ 200 m R&D centre in the UK as part of their US\$ 2 billion investment commitment to the UK. Currently, Huawei employs over 80 R&D engineers in its existing UK R&D office in Ipswich. They will now employ a total of 300 high-tech R&D positions in the UK by 2017.

Meanwhile a leading Asian social gaming company, Reko, has announced that it will be the first high-profile Chinese tech company set up in London's Tech City. Reko has more than 15 million daily PC gamers and 10 million daily smartphone gamers.

The Chancellor has made opening up "e-trade routes" and promoting Britain's global advantage in the tech sector – a sector that will help drive both countries' future growth – a key priority of his trip.

Source: GOV.UK



UK - Sino-UK Seminar on Sustainable Advanced Manufacturing Collaboration

The Seminar was jointly organised by the Chinese Ministry of Science and Technology (MOST) Department of International Cooperation, the British Embassy to China, RCUK and Technology Strategy Committee on 23 September in Changsha of Hunan Province. Over 40 innovative enterprises and about 100 representatives from the policy, industry, education and research sectors from the UK and China attended the seminar. MOST Deputy Director General for International Cooperation Chen Linhao, the British Ambassador to China, Hunan Provincial S&T Department Deputy Director General delivered opening remarks for the seminar. The seminar was a follow-up of the 6th Sino-UK S&T Joint Committee and will facilitate the implementation of the cooperation programme for 2014 in the field of sustainable advanced manufacturing.

Source: [MOST](#)



5 Grants & Fellowships

5.1 Call announcements for international researchers

Belgium – Scientific cooperation programme between FWO and NSFC

The FWO and the National Natural Science Foundation of China want to promote scientific collaboration between Flanders and China, on the basis of equality and mutual benefit. The primary tools for achieving this are the exchange of researchers from the postdoctoral level upwards, and the organisation of joint seminars and conferences. Other collaborative activities can be agreed upon by the researchers concerned.

The research must be fundamental in nature, and should fall within the remit of already subsidised projects. These exchange projects usually run for two years.

The funding offered under this programme covers the exchange of researchers and the organisation of seminars and workshops.

Each party pays the travel expenses of its own researchers, and the accommodation costs of the researchers of the guest party. On top of the accommodation costs, the FWO also provides a daily allowance of 50 Euro for the Chinese researchers. On top of the accommodation costs, NNSF provides a daily allowance of 200 RMB.

The number of funded projects is agreed each year by FWO and NNSF. The maximum duration of a visit is 6 weeks. The total duration of the visit per year and per host country must not exceed 30 weeks.

Applications can be submitted at any time, at least 4 months before the intended start of the exchange. The project must be submitted simultaneously to the FWO and the NNSFC.

You can submit an application by sending the completed application form by e-mail to interprog@fwo.be. It is not necessary to send a hard copy.

Further details on the [FWO website](#).

Europe/China - Europe-China call for collaborative research on The Green Economy and Understanding Population Change

The Agence Nationale de la Recherche (ANR France), Deutsche Forschungsgemeinschaft (DFG Germany), the Economic and Social Research



Council (ESRC UK), the National Natural Science Foundation of China (NSFC China) and the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO Netherlands) are pleased to announce a call for collaborative projects between European and Chinese researchers in the areas of 'The Green Economy' and 'Understanding Population Change'.

Applications are invited for joint projects under the following priority themes, addressing key issues where true added value can be gained from collaboration:

The Green Economy

- **The 'greenness and dynamics of economies'**
- **Metrics and indicators for a green economy**
- **Policies, planning and institutions (including business) for a green economy**
- **The green economy in cities and metropolitan areas**
- **Consumer behaviour and lifestyles in a green economy.**

Understanding Population Change

- **Changing life course**
- **Urbanisation and migration**
- **Labour markets and social security dynamics**
- **Methodology, modelling and forecasting**
- **Care provision**
- **Comparative policy learning**

Proposals should include leading European researchers wishing to develop contacts with leading researchers in China, and involve participation from at least two different participating European countries and a Chinese consortium.

The closing date is **3 December 2013**.

Applicants need to ensure that proposals are submitted by the European researchers to ESRC (who are administering this call on behalf of the agencies in Europe) and NSFC in China.

Further details can be found on the [ESRC](#), [ANR](#), [DFG](#), [NWO](#) and [NSFC](#) websites.

EU - Dragon-Star Innovation Award – call for application

The Dragon-Star innovation Award aims at delivering visibility to shining examples of Chinese-European successful collaboration cases in order to motivate and stimulate future Chinese-European cooperation.

If you are a successful and innovative research or business Chinese-European cooperation, you can apply now for the Dragon-Star Innovation Award.



Deadline for application is **31 March, 2014**.

The winner will be awarded with the “Dragon-Star Innovation Award” during the China-EU S&T Cooperation Forum to be organised in Brussels in 2015.

Find out more about the [eligibility criteria](#) and download the [Innovation Award application form here](#).

More details available on the [Dragon Star project website](#).

EU - JPI Climate – Call for proposals for transnational research projects

The [Joint Programming Initiative 'Connecting Climate Knowledge for Europe \(JPI Climate\)'](#) is a collaboration between 13 European countries to coordinate jointly their climate research and fund new transnational research initiatives. JPI Climate connects scientific disciplines, enables cross-border research and increases the science-practice interaction. JPI Climate provides a platform for aligning national research priorities, coordinating the research base in Europe, and responding to the needs of the European society, through innovative inter- and trans- disciplinary approaches and flexible collaborative governance.

JPI Climate is launching a call for proposals for transnational collaborative research projects including two specific call topics:

- **Societal Transformation in the Face of Climate Change**
- **Russian Arctic & Boreal Systems**

The call is open to international consortia of researchers and research groups from academic and other organisations that have a strong focus on research.

Time plan is as follows:

Opening of the call: 30 September 2013

Pre-proposal deadline: **29 November 2013**

Tentative day for funding decision: June 2014

Access the call and all related details on the [JPI Climate website](#).

Finland - Joint Call between Jiangsu province (China) and Tekes Groove and Skene Programmes (Finland) for Industrial R&D

Jiangsu Science and Technology Department, Jiangsu Province, The People's Republic of China, and Tekes, Finnish Funding Agency for Technology and Innovation in Finland have launched the 2nd call for Joint Industrial R&D Projects with a primary aim to support joint industrial R&D aimed at development of products or processes leading to commercialization in the global market.

The funding will be granted according to both countries' usual funding principles. Tekes funds risky projects that create new know-how and



innovations. The funding must have an integral impact on the project and the intended results must be significant considering funding. Tekes selects for funding projects that create in the long-term the greatest benefits for the Finnish economy and society. The other applications and the project's impacts on other companies and society are taken into account in the evaluation of applications.

Joint projects in the area of **clean energy and environmental protection** will have prior consideration.

Submission deadline is **30 November 2013**.

Access the call on the [Tekes website](#).

France – COOPOL Innovation: 2014 Call

The 7th edition of the COOPOL Innovation programme has been launched. This programme supports French companies teaming up with French academic partners and then identifying Chinese research and innovation cooperation partners through an exploratory mission to China. The mission is organized and funded by the scientific section of the French Embassy to China. All technological fields are eligible.

Deadline to submit proposals is **31 December, 2013**.

Further details available on the [French Embassy website](#).

Germany - 15 PhD fellowships at the Graduate School of East Asian Studies at Freie Universität Berlin

The Graduate School of East Asian Studies (GEAS), funded by the Excellence Initiative of the German Federal and State Governments, will admit up to 15 doctoral candidates to its program, beginning October 1st, 2014.

Twelve candidates will receive a grant by the Graduate School, up to three other PhD candidates per year can be accepted with funding from other Freie Universität Berlin programs, from partner institutions in East Asia or from scholarships provided by German or international organizations.

Doctoral dissertations at GEAS are expected to analyze the institutional environment of social, political, cultural and economic actors in the East Asian region of China, Japan and/or Korea. All dissertation research at GEAS will be conducted in the context of the three interconnected research lenses of its academic profile: **the origin and change of institutions in East Asia, the effects institutions have on processes related to globalization and modernization in East Asia on the side of governments, bureaucracies or business and individual life-styles or related preferences, and, finally, the interdependencies of institutions in East Asia within and beyond its regional boundaries.**

FUB offers Ph.D. stipends of approximately € 1400 €/month. Fellowships will initially be granted for one year, and contingent upon a positive evaluation after



each year of study, fellowships will be extended for another year. The fellowship may be granted for a maximum of three years.

Applicants should apply via the online portal: <https://apply.drs.fu-berlin.de/eas>

Applications should include a CV, a letter of academic interest, a brief outline of the prospective dissertation topic (maximum 6 pages), a schedule for the dissertation, and copies of certificates of the applicant's relevant degrees and language skills. Two letters of recommendation shall be sent directly by the applicant's referees to GEAS via the online application system.

Deadline to submit applications is **15 January, 2014**.

Learn more on the [GEAS website](#).

Greece - Onassis Foundation Fellowships for foreigners

The Alexander S. Onassis Public Benefit Foundation announces the twentieth (20th) annual Programme of Research Grants and Educational Scholarships starting on October 1st 2014, which is addressed to non-Greeks, University Professors of all levels (Ph.D. holders), postdoctoral researchers (Ph.D. holders), artists, post-graduate students and Ph.D candidates.

Grants for up to 6 months (professors, assistant professors and post-docs) or 10 months (PhD and post-graduate students) are given to come and pursue research/studies in Greece.

Deadline for application is **31 January, 2014**.

Further details available on the [Onassis Foundation website](#).

International - SCOPE-Zhongyu Young Scientist Environmental Awards 2013

Nominations are invited for the 2013 Awards in **environmental sciences, environmental technological innovations, and environmental management**. Candidates must be less than 45 years of age, hold a doctorate (PhD) granted within the past 10 years, and demonstrate no less than five years' research experience and an outstanding research record. Self nominations will not be considered. The closing date for receipt of nominations is **20 November 2013**.

SCOPE is an international scientific non-governmental organization founded in 1969.

The candidate information form is available from the SCOPE Secretariat secretariat@scopenvironment.org.

For more information, [download the PDF here](#).

Chinese applicants can also find further details on the [CAS website](#).



International - IIASA-Funded Postdoctoral Program

Founded in 1972, the International Institute for Applied Systems Analysis (IIASA) is a scientific research institute located in Laxenburg, near Vienna, Austria. It conducts policy-oriented research into problems of a global nature that are too large or too complex to be solved by a single country or academic discipline.

IIASA is sponsored by its [National Member Organizations](#) in Africa, Asia, Europe, and the Americas.

IIASA provides full funding for 4 post-doctoral researchers each year. Scholars are expected to conduct their own research within one of IIASA's research programs or special projects **on topics closely related to IIASA's [agenda](#)**. The awards are of up to 2 years' duration.

The goals of the IIASA Post-doctoral Program are:

- to encourage and promote the development of young researchers and offer them the opportunity to further their careers by gaining hands-on professional research experience in a highly international scientific environment; and
- to enrich IIASA's intellectual environment and help achieve research program goals.

As well as the special prestige attached to a postdoctoral award at IIASA, recipients enjoy a substantial number of [professional benefits](#) as well as a competitive remuneration package.

Applications are accepted all year round. The upcoming deadline is **1 December, 2013**.

More details available on the [IIASA website](#).

Netherlands – Rubicon

Rubicon aims to encourage talented researchers at Dutch universities and research institutes run by KNAW and NWO to dedicate themselves to a career in postdoctoral research.

International research experience is often essential for building up one's scientific career. Rubicon offers talented researchers who have completed their doctorates in the past year the chance to gain experience at a top research institution outside the Netherlands.

Postgraduates who are currently engaged in doctoral research or who have been awarded a doctorate in the twelve months preceding the relevant deadline may apply. Applicants who are still engaged in doctoral research may only apply if their supervisor provides a written declaration approving their thesis.

In the five years directly preceding the submission deadline, applicants must have conducted scientific research at an academic research institute in the Netherlands for a period at least equivalent to three years fulltime.



Applicants can apply for a period of up to two years at an excellent research institution outside the Netherlands. The minimum duration is twelve months. The eligible costs are the salary including fringe benefits, travel costs and a limited amount for research costs.

Deadline for application is **28 November, 2013**.

Further details can be found on the [NWO website](#).

Norway - The Wenner-Gren Foundation: International Collaborative Research Grants

The International Collaborative Research Grant (ICRG) supports international research collaborations between two or more qualified scholars, where the principal investigators bring different and complementary perspectives, knowledge, and/or skills to the project. By encouraging international collaborations, the grant contributes to the development of an international anthropology that values and incorporates different national perspectives and resources.

The grants are for a maximum of \$30,000 for the research project. Proposals which include the optional training element can have an increased funding request up to a maximum of \$35,000.

Next deadline for application is **1 December, 2013** (for funding starting in July through December of next year).

Further information available [here](#).

Sweden - STINT Initiation Grants

The purpose of STINT's activity is to strengthen the competitiveness of Swedish universities and colleges through the development of international relationships. STINT offers Initiation grants for the implementation of short-term projects targeting the building of new and strategically interesting international relationships.

Candidates shall be active at a university or college in Sweden and have defended their doctorates. The main emphasis of the partnership shall be outside the EU/EEA area (the principal collaborating party shall be outside this area).

The proposed activities within the project shall be completed within twelve months from present closing date and the applied amount shall not exceed 150000 SEK.

Applications may be submitted continuously throughout the year. The next -and last - assessment round for the year 2013 will start on **26 November, 2013**. This is also the deadline to submit applications.

Further details can be found on the [STINT website](#).



Sweden - STINT Institutional Grants

The overall objective of the STINT Institutional Grants Programme is to strengthen Swedish research and higher education through international cooperation by widening the scope of exchange.

The programme supports projects of high scientific quality which are clearly contributing to the activities of participating educational establishments.

Projects may last for up to four years, conditional upon the acceptance of an interim report after two years. Applicants should be working at a university in Sweden and have obtained their PhD.

The ideal partnership project will have activities encompassing research as well as higher education, although STINT is able to support pure research partnerships. It is of particular importance for young researchers and doctoral students to participate in the exchanges. In this programme, STINT wants to encourage new collaborative patterns and will not prioritise long-standing partnerships. The partnership must be balanced, i.e. the benefits and the personnel exchange should not be primarily in one direction.

This call closes on **December 3, 2013**.

Access further details on the [STINT website](#).

Switzerland – Ambizione Energy

With Ambizione Energy, the Swiss National Science Foundation (SNSF) is seeking to attract young academics (generally up to 5 years after doctorate) working in the field of **energy research**, which may or may not be application-oriented. The funding scheme is aimed at promoting all researchers interested in conducting, managing and directing an independently planned project at a Swiss institution of higher education.

Ambizione is aimed at qualified researchers from Switzerland who have already spent a period of time abroad or are in the process of doing so. It is also aimed at young foreign talents who wish to carry out research work in Switzerland.

Salaries (at research associate level) and research costs are paid for a maximum duration of three years. The research costs may also cover the hiring of assistants. Candidates with a sufficient level of experience may, in justified cases and subject to certain conditions, request the appointment of a doctoral student.

Next submission deadline is **2 December, 2013**.

Further details available on the [SNF website](#).



UK – Wellcome Trust Investigator Awards

These awards build on the Trust's strategic goal of supporting the brightest researchers in **biomedical science** with the best ideas, and extend our successful fellowships funding model to researchers in established academic posts (those who have permanent, open-ended or long-term rolling contracts of employment salaried by their university or research institution). The awards provide support that is flexible and at a level and length appropriate to enable exceptional researchers to address the most important questions about health and disease.

The *New Investigator Awards* support outstanding researchers who are no more than five years from appointment to their first academic position, but who can already show that they have the ability to innovate and drive advances in their field of study.

The *Senior Investigator Awards* support exceptional, world-class researchers, who hold an established academic position and have a compelling vision for their research.

Researchers from the UK, Ireland as well as China (and other middle-income countries) are eligible to apply. Deadline for applications to both schemes is **22 November, 2013**. Read more about both schemes on the [Wellcome Trust website](#).

5.2 Calls still open

Calls first announced in [previous editions of the newsletter](#)

Denmark - The Danish Council for Independent Research (DFF) Individual Postdoctoral Grants

The next deadlines for application are the following (depending on which research council one applies to): FKK: **1 November 2013**, FSS: **7 November 2013**, FTP: **4 November 2013**.

Further details available on the [Danish Ministry of Science, Innovation and Higher Education website](#).

China – NSFC-ISF Joint Academic Research Programme

Deadline for submission of proposals for the 2013/2014 round is **November 4th, 2013**. More information about the call can be found in the [ISF website](#) and and on the [NSFC website](#).



UK - Royal Academy of Engineering Research Exchanges with China and India

Deadline for applications for travel in 2014-2015 is **18 November, 2013**.

Further details can be found on the [Royal Academy of Engineering](#).

UK – BBSRC-China Partnering Awards

The application deadline is **27 November 2013**.

More details available on the [BBSRC website](#).

UK – BBSRC Taiwan-UK International Partnering Awards

The application deadline is **27 November 2013**.

More details available on the [BBSRC website](#).

EU – CERN Non-Member State Postdoc Fellowship Programme

Deadline for application is **1 December 2013**.

Further details available on the [CERN website](#).

EU - CERN Technician Training Experience (TTE)

Next deadline for application is **13 December 2013**. More details can be found on the [CERN website](#).

UK – Chevening Scholarships

Applications for 2014-2015 Chevening Scholarships in China will close on **15 December 2013**.

Read more on the [Chevening website](#).

France - EIFFEL PhD scholarships

Deadline for receipt of applications by Campus France : **January 8th, 2014**

Further details available on the [Campus France website](#).



5.3 Open calls under FP7 and Euratom

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

- [Information and Communication Technologies](#) / 1 open call
- [Joint Technology Initiatives \(Annex IV-SP1\)](#) / 1 open call

The following call is open under the [Capacities](#) programme

- [Research Infrastructures](#) / 1 open call



6 Jobs

China - Postdoc Computer-Aided Diagnosis Algorithms at the Sino-Dutch Biomedical and Information Engineering School of Northeastern University (Shenyang)

The Sino-Dutch Biomedical and Information Engineering School of Northeastern University in Shenyang, China, is seeking to appoint a Postdoctoral Research Fellow (for 1 year, extension possible) to join the Sino-Euro Vision & Brain Institute (www.vision-brain.org).

The Vision & Brain Institute focuses on the prevention of blindness, and does so by supporting large-scale screening for diabetes through the development of intelligent image analysis algorithms.

The research to be conducted by the fellow will focus on **effective computer vision algorithms for detection of early diabetic retinopathy**.

The successful candidate will be employed as part of a quickly expanding Sino-European collaborative project, involving the Biomedical Information Engineering School of Northeastern University and He Shi Eye Care in Shenyang, and top-ranking Eindhoven University of Technology and Maastricht University in the Netherlands, and several industrial partners.

The successful candidate has a background with a PhD or work experience in **biomedical image analysis**, with a degree in computer science, applied mathematics, biomedical engineering or physics, and speaks Chinese and fluent English.

Deadline for application is **15 November, 2013**.

Interested candidates should send their application with extensive CV to: Prof. Bart M. ter Haar Romenij PhD., (Bart.terHaarRomenij@gmail.com) or Prof. Yan Kang, dean BMIE (kangyan@bmie.neu.edu.cn). Informal enquiries can also be made to Mr. Han van Triest (NEU, email: Han@bmie.neu.edu.cn).

Access the full announcement on [EURAXESS Jobs](#).

China - Senior/Principle Investigator in Immunology or Cancer Immunology at BeiGene Co. (Beijing)

BeiGene Co. LTD (Beijing, China) is an oncology drug research and development company with a strong scientific advisory board composed of world-renown scientists and a 150-person team. For details, please refer to the company website (www.beigene.com).

The company is looking for an integral member of their cancer immunology team supporting biologic drug development. This individual will be responsible for and exposed to the broad spectrum of activities required to develop a cancer drug candidate. Primary responsibilities are to lead a group of scientists to



understand the biology of the therapeutic target, to develop and validate cell-based assays and to investigate the mechanism of action of the drug candidates in the setting of a fully integrated biotech organization with a focus on immunological therapy for cancer treatment. The candidate(s) will supervise a group of 2 to 6 research scientists.

Requirements are as follows:

- PhD degree in Immunology with over 2 years of postdoctoral training or research experience
- Knowledge and research experience in T-cell, dendritic cell and cancer immunotherapy preferred
- Skillful in analyzing and solving immunological problems, and performing in vitro and in vivo functional studies by immune cell-based assays and mouse cancer models
- Excellent analytical and organizational skills, good communications skills in English and Chinese.

Send your resume to hr@beigene.com or yucheng.li@beigene.com.

Deadline for application is **15 December, 2013**.

Access the full announcement on [Nature Jobs](#).

China - Faculty Positions Available for candidates worldwide in Harbin Institute of Technology (Harbin)

Harbin Institute of Technology(HIT), subordinated to the Ministry of Industry and Information Technology(MIIT), was founded in 1920 and is mutually constructed by MIIT, Ministry of Education(MOE) and Heilongjiang Province. HIT is one of the first universities supported by the "211 Project", "985 Project" and "2011 Project" of Chinese government.

HIT invites applications worldwide for full-time faculties. Responsibilities include participating in teaching at the undergraduate and graduate levels and establishing high-level research programs. Candidates with a PhD degree may apply suitable positions referring to the introduction to the research areas of each school or department listed in the full announcement (see below, **almost all fields covered, from engineering to physical, life and social sciences**).

All positions include three levels: lecturer, associate professor and professor. Especially, exceptional candidates who meet relevant criteria will be recommended and encouraged to apply for competitive talent programs as follows:

A. 1000 Plan Professorship for Young Talent

Eligible candidates should be under the age of 40 and work in any field of natural sciences or engineering technology, with a PhD degree awarded in a world-renowned institution with at least 3 years of overseas research experience. Candidates should also be holding a full-time teaching or research position in renowned universities, research institutions, or R&D departments in famous overseas enterprises at the time of application.



B. "Young Experts" Program Professor & Associate Professor

Candidates should be under the age of 35 (for Professor positions) or 30 (for Associate Professor positions), with a PhD degree in a renowned institution and with outstanding track record.

The posted positions are all immediately available until filled. Application package including a cover letter declaring the targeted school/research area and position, a detailed resume, a publication list, a research and teaching plan should be sent by email with the title of "Faculty Application from Naturejobs". A prescreening decision reply will be provided in 10 working days upon the application is received. The first round remote interview will be held by the end of November, 2013.

Contact:

Mr. Wang Liang

Tel.:86-451-86418579

Fax.:86-451-86414661

Email: jobs@hit.edu.cn

Access the full announcement on [Nature Jobs](#).

Netherlands - Business Developer Europe & Asia at KeyGene (Wageningen)

KeyGene is one of the largest agro-biotech companies in the world.

KeyGene is an internationally renowned R&D company with long term partners in both the vegetable crops and in the field crops. The company's primary focus is on 6F1 crops. KeyGene has its headquarters in Wageningen, the Netherlands, a subsidiary in Rockville, USA and a Joint Lab at the Shanghai Institute of Biological Sciences in Shanghai, China.

KeyGene's Business Development (BD) Group has a strategic and operational function within KeyGene and is responsible for developing new business contracts through account management and business development.

To support the BD Group in The Netherlands, KeyGene is looking for an experienced professional to strengthen our team as BUSINESS DEVELOPER EUROPE & ASIA.

Access the full announcement on [EURAXESS Jobs](#).

Application deadline is **18 November, 2013**.

EU – Postdoctoral and senior researchers positions at the Joint Research Centre

The European Commission's Joint Research Centre (JRC) is currently advertising the following vacancies:

- 3 doctoral positions
- 1 senior researcher position

Further information on the [JRC website](#).

Access thousands of other research jobs and fellowships announcements on the [EURAXESS Jobs portal](#).



7 Events

7.1 EURAXESS Links China

EURAXESS Share - 2nd EU-China Workshop on Joint Research Structures (JRS) In China, 22 November 2013, Beijing

In November 2012 the “1ST EU Member States-China Joint Research Laboratories” Workshop was very successfully organised at the Italian Embassy in Beijing.

To build upon this success, a second edition of this workshop will be organised on November 22, 2013 in Beijing by the EU Delegation and [EURAXESS Links China](#) with support of the Embassies of France, Italy and the Netherlands.

The main objectives of this workshop are:

- to support the creation of joint research structures between European and Chinese partners as a way to develop the EU-China research & innovation cooperation further,
- to share ideas and experiences about how to establish and run such joint research structures,
- to provide networking opportunities for members and stakeholders of joint labs, both public and private,
- to encourage the 'Europeanisation' of these joint research structures which, for most of them, are still established on a bilateral basis between one European country and China, and to facilitate application to the European framework programme Horizon 2020.

The morning workshop will be followed in the afternoon by a launching ceremony and training of how to apply to the new European framework programme for research and innovation, called “Horizon 2020”, which is expected to have a budget of 79 billion euros over the next seven years (first calls to be published in December 2013).

We look forward to your participation and **invite all researchers and other stakeholders who are members of joint research structures or interested in this form of cooperation to register now** to attend this event, as well as, if interested, the Horizon 2020 training in the afternoon.

Deadline to register to the following email adress: delegation-china-scitech@eeas.europa.eu is **12 November 2013**.

- [Programme of the 2nd EU-China Workshop on Joint Research Structures \(JRS\) In China](#)
- [Programme of the Horizon 2020 Launch and Training](#)



7.2 EURAXESS Links China Recommends

European Research & Innovation Tour of China 2013 coming to Nanjing (12 Nov.) , Shanghai (14 Nov.) and closing in Beijing (20 Nov.)

The representatives of the EU Delegation and EU Member State Embassies working on science, technology, research and innovation cooperation with China are organizing the 2nd edition of the Tour of China, a promotional tour of European R&D programmes across China.

The purpose is to boost the visibility of Europe's R&D capacity in China by introducing research landscapes and funding programmes of the EU and of the individual European countries, as well as the services offered by EURAXESS.

The final stages of the Tour of China 2013 will be Nanjing (12 November), Shanghai (14 November) and Beijing for the closing of the Tour (20 November).

For further details about this promotion campaign and how to attend the events please contact Mrs. Carmen Westphal from the German Consulate in Shanghai at la-10@peki.auswaertiges-amt.de (Nanjing and Shanghai events) and Mrs. Alexandra Lehmann from the EU Delegation in Beijing at Alexandra.lehmann@eeas.europa.eu (Beijing closing event).

EU-China Urbanisation Forum, 20 November 2013, Beijing, and EU-China Urbanisation Exhibition, 20-23 November 2013, Beijing

The 16th EU-China Summit will be held in Beijing this month (November). On this occasion and in the framework of the [EU-China Urbanisation Partnership](#) launched in Brussels in May 2012, the European Commission and the Chinese National Development and Reform Commission (NDRC) are organizing, under the high patronage of Premier Li Keqiang and President Jose Manuel Barroso, the **EU-China Urbanisation Forum**.

This forum will be held on 20 November 2013 and several Commissioners, a number of EU Mayors and top experts and business persons will form part of the EU delegation to meet their counterparts in China. The ultimate goal of the Forum will be the signing of an action plan for implementation activities drafted in the Urbanisation Partnership strategic papers.

The EU-China Urbanisation Forum will include a Plenary Session and five sub-fora (Green Cities, Smart Cities, Innovative Cities (also called Creative Cities), Urban Mobility and Cultural Heritage).

The sub-forum on "**Innovative Cities**" will in particular have science and innovation issues as its main focus. Therefore, researchers from all fields working on innovative solutions for urban areas are welcome to participate in this sub-forum on Innovative Cities.



The registration website for the Urbanisation Forum is now open: <http://euchina.onetec.eu/index.html>. The deadline to register online is **6 November**.

While the agenda for the sub-forum is still being worked on, those interested are invited to register immediately as the number of seats available is very limited.

The venue for the high-level Forum and Sub-Fora will be the People's Congress Hall on Tiananmen Square.

A four day exhibition on Urbanisation will also take place at the Beijing Exhibition Center and be open to professionals and the public from 20 to 23 November.

Find all details about this event on the [EU-China Urbanisation Exhibition website](#).

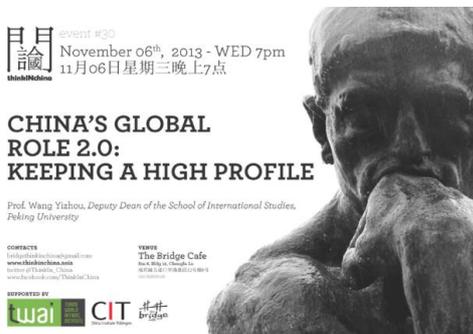
ThinkINChina #30 - China's Global Role 2.0: Keeping a High Profile - Beijing, 6 November

In his two recent books about the evolution of China's global role, Wang Yizhou famously initiated the concept of "creative involvement", calling on China to play a bigger role in international affairs to match its position as a great power. From 2008 onwards, China's foreign policy climbed to "new heights" while shaping its image as a global power, and the emergence of this new phase brought about unprecedented opportunities and uncertainties to its international diplomacy, still in pressing need for reform. How will this constructive move on diplomacy contribute to the building of a Chinese cultural influence? Will this new option meet the growing demands of the international community? How could this creative involvement affect the definition of China's own "core interests"? Prof. Wang Yizhou will present his thesis, drawing on some observations about the challenges of China's new leadership.

The session will start at 7pm at The Bridge Café in Wudaokou (Rm. 8, Bldg. 12, Chengfu Lu) and will feature Prof. Wang Yizhou 王逸舟, Deputy Dean of the School of International Studies, Peking University as guest speaker.

This is an open event.

Details available at www.thinkinchina.asia.



7.3 Upcoming scientific events in China

Find out about major events *in Europe* on the [European Commission's 'Conferences & Events' website](#).

Field	Date	Location	Title <i>(click for more details)</i>
Genomics	30 October-1	Shenzhen	The 8th International Conference on



	November, 2013		Genomics
Medical technology	3-4 November, 2013	Hangzhou	2nd Sino Swiss Symposium on Medical Technology (SSSMT)
Metabolism	4-8 November, 2013	Suzhou	CSH Asia 2013 Conference on Nuclear Receptors and Diseases
Social Sciences	6 november, 2013	Beijing	ThinkINChina #30 - China's Global Role 2.0: Keeping a High Profile
R&I Cooperation	12 november, 2013	Nanjing	European Research & Innovation Tour of China 2013 - Nanjing
R&I Cooperation	14 November, 2013	Shanghai	European Research & Innovation Tour of China 2013 - Shanghai
Materials science	16-17 November, 2013	Xiamen	2013 International Conference on Mechanicals Structures and Smart Materials
Environment	17-20 November, 2013	Beijing	Urban Environmental Pollution 2013 Asian Edition (UEP2013)
Bioinformatics	17-22 November, 2013	Shenzhen	2013 EMBO Practical Course - Bioinformatics and statistics for large-scale data
Microbiology	18-22 November, 2013	Suzhou	CSH Asia 2013 Conference on Bacterial Infection and Host Defense
Urbanisation	20 november, 2013	Beijing	EU-China Urbanisation Forum
R&I Cooperation	20 november, 2013	Beijing	European Research & Innovation Tour of China 2013 - Beijing
R&I Cooperation	22 November	Beijing	EURAXESS Share: 2nd EU-China Workshop on Joint Research Structures (JRS) In China
Horizon 2020	22 November	Beijing	„How to apply to horizon 2020“ Training
Cryptography	22-24 November, 2013	Beijing	The 6th International Conference on Pairing-based Cryptography
Pharmacology	27-28 November, 2013	Shanghai	Novel Drug Delivery Systems (NDDS) & Clinical Trail Management China 2013
Medicine	3-5 December, 2013	Shanghai	Clinical Trials Technology 2013
Engineering	7-8 December, 2013	Guangzhou	2013 International Conference on Information Science and Cloud Computing (ISCC 2013)
Genomics	16-20 December, 2013	Shenzhen	BGI Bioinformatics Workshop on Diseases
Engineering	19-21 December, 2013	Hong Kong	2013 Hong Kong International Conference on Engineering and Applied Science
Medicine	20-23 February, 2014	Macau	19th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI)
Engineering, Life science	21-23 February, 2014	Sanya	2014 Asia-Pacific Conference on Life Science and Engineering



8 Press Review*

8.1 Policy & Papers

China to better finance scientific development

China will improve the way it provides financial support to science and technology development, Finance Minister Lou Jiwei said on Tuesday. When delivering a report to the country's top legislature, Lou said despite increasing financial input into the sector, reforms are needed to improve the system's effectiveness. Basic research relies heavily on financial support from central government rather than local governments or enterprises, and the proportion of research and development expenditure spent on basic research is too low, said Lou in the report to the Standing Committee of the National People's Congress. In addition, the science and technology funding system lacks coordination between departments, and relations between the government and the market have not been clearly defined, affecting the effectiveness of fiscal support. Lou said the most fundamental way to address these problems is to further deepen reform of the science and technology system. He said the government will continue to transform its functions and build a science-technology innovation system with enterprises as major players. The government will also promote other forms of financial support, such as angel investment and government procurement of services. Lou said the science and technology evaluation system and management of financial funds in the sector should be improved, and in the meantime, strengthen the monitoring and supervision of its use. The country's fiscal expenditure in science and technology development increased from 168.9 billion yuan in 2006 to 560 billion yuan in 2012, an average annual growth rate of 22.73 percent. Expenditure in research and development in China reached one trillion yuan (\$164.1 billion) in 2012, about 1.98 percent of its gross domestic product, according to the report. (source: [China Daily](#))

Think tank report focuses on new reforms

The Development Research Center of the State Council, a Chinese government think tank, has highlighted eight key reform areas in a report ahead of a key plenum of the Communist Party of China. The goal of the country's next round

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of reform is constructing a dynamic, innovation-led, inclusive and orderly socialist market economy with rule of law, according to the report, published on the official website of the China Economic Times. The new round of reform will improve China's market economy system, transform government functions and innovate the structure of enterprises, with the goal being "to properly handle the relationship between the government and the market", the report said. The government has made reform a priority to provide momentum for the country's growth and development, with comprehensive reforms expected to be outlined during the Third Plenary Session of the 18th CPC Central Committee in November. The center's report details eight main reform areas, including monopoly industries, land, finance, tax and fiscal systems, opening-up, government administration and State-owned assets, as well as boosting innovation and green development. (source: [China Daily](#))

Court steps up punishments for IPR crime

Chinese courts will give heavier punishments, including increased fines, to those who violate intellectual property rights, the top court said on Tuesday. In 2012, two companies were fined about 37 million yuan (\$6 million) for the acts of four employees who allegedly stole business secrets from their opponents. The fine is so far the highest given by the courts for a trade secret theft case, according to the Supreme People's Court. The four employees were also sentenced from two to six years in prison, the court said. Sun Jungong, spokesman of the court, said that such a large fine is a strong warning against intellectual property rights crime because the potential economic losses from committing the crime would outweigh the gains. Last year, Chinese courts tackled 12,794 intellectual property rights cases and gave punishments to 15,518 people, the statement said. Both the two figures peaked in the past five years, the court added. (source: [China Daily](#))

Cases of scientific misconduct on the rise

Scientific misconduct has grown in tandem with the great increase in government funding for science and technology in recent years, said Yang Wei, director of the National Natural Science Foundation of China. The organization publicized six cases of scientific misconduct on its website in August, in an attempt to uphold scientific integrity and prevent similar scandals from recurring. The unethical activities disclosed included forgery, distortion of facts and plagiarism, mainly in order to gain approval for research projects and funding, publishing academic articles in influential journals and promotion, according to a statement issued by the foundation. "Unethical research misconduct is undermining the nation's general course of science and technology development and negatively affecting the environment for science research," Yang said. From 2010 to June 30, 2013, the foundation's disciplinary supervision committee received 468 complaints related to scientific misconduct, 152 of which were filed by complainants using their real names. In recent years, at least 80 cases of research misconduct have been uncovered by the foundation. A survey conducted by the China Association for Science and



Technology in 2009 found nearly half of 30,000 respondents from scientific research institutes, universities and medical institutions across the Chinese mainland said academic fraud and cheating was quite common. (source: [China Daily](#))

Reforms will be comprehensive, president says

President Xi Jinping assured international economists and management experts that the upcoming Third Plenary Session of the Communist Party of China in November will hammer out a blueprint for comprehensive reform. Chinese leaders will establish the country's all-encompassing reforms for the next decade, he said on Wednesday while meeting overseas members of the advisory board for the School of Economics and Management at Tsinghua University. Xi said the November meeting for the 18th CPC Central Committee will be important for China to create a rebalancing of reforms, development and stability. The plenum will also help China generate new ideas to develop the economy and sharpen creativity. In the nation's new round of reforms, Xi also stressed the importance of understanding the "advanced international experience" and strengthening education reforms in order to give top-quality talents the most ideal opportunities in China. (source: [China Daily](#))

Govt calls for growth driven by innovation

The Minister of Science and Technology on Friday highlighted the importance of the innovation-driven development strategy against the backdrop of China's economic transition, vowing to push forward reforms in the country's system of science and technology. "Our economy now is at the critical juncture of transformation and development. In order to improve the quality and efficiency of the economy, [we] must have scientific and technological innovation and technical advancement as the impetus," [Wan Gang](#), the minister, told a press conference. At the 18th National Congress of the Communist Party of China (CPC) last year, the authorities unveiled a major strategy of driving development through innovation. On September 30, China's top leadership held a group study on the innovation-driven development pattern, with President [Xi Jinping](#) stressing that the implementation of the strategy would determine the future and destiny of the Chinese nation. During the study, Xi and other top CPC leaders visited Zhongguancun Science Park, a Beijing technology hub known as China's Silicon Valley, which boasts about 20,000 high-tech companies and had a total revenue of 2.5 trillion yuan (\$409 billion) in 2012. Wan reviewed China's achievements in science and technology this year, highlighting the success of the Tiangong-1 and Shenzhou-10 missions in June, China's first manned deep-sea submersible Jiaolong's exploration voyage in the Pacific Ocean and the development of Tianhe-2, the world's fastest supercomputer. The minister also highlighted the importance of reform to the system of science and technology, with the top priority of building a transparent system for the management of research funds. "I was furious, distressed and shocked by academic corruption. All the money is from taxpayers and therefore we should never tolerate violations," Wan said after recent cases of



embezzlement and other misuse of scientific research funds came to light. (source: [Global Times](#))

Beijing prepares plans for big smog

Beijing is upgrading its air pollution warning and emergency response system. Emergency response measures include an odd-even license plate rule for vehicles, shutdown and emission reduction of heavy polluters and suspension of school classes, according to the Beijing Municipal Bureau of Environmental Protection. Starting in November, the warning system for Beijing, Tianjin and other heavy-polluted surrounding areas will boast three levels. When the PM2.5 air quality index is set to go above 500 for three consecutive days, a level I warning will be issued. Level II is for 300 to 500 and III for 200 to 300. The Beijing government outlined in early September its enhanced efforts to tackle air pollution over the next four years in the Beijing 2013-17 Clean Air Action Plan and on September 25 pledged to invest 1 trillion yuan (\$163 billion) in clean air efforts. (source: [Global Times](#))

China plans geological environmental warning system

China is planning a geological environment warning system in a bid to issue timely warnings of environmental risks. Governments at county levels will be responsible for the system. They should publish geo-environment monitoring results and simultaneously issue warnings if the results indicate abnormal situations, according to a government regulation released on Tuesday for public opinion. Local governments should also take active measures to prevent possible risks, the regulation said. The regulation prohibits any individual or companies from publishing environmental monitoring information before it has been reviewed and approved by the county government. Construction companies must employ qualified geo-environment monitoring institutions to conduct environment appraisals before operations, and they will be responsible for effects caused by their operation. (source: [Xinhua net](#))

Plan maps development of China's sat-nav industry

China's State Council, or Cabinet, has approved a mid and long-term plan for the development of its satellite navigation industry, according to a document released on Wednesday. By 2020, when China is expected to expand its home-grown regional BeiDou Navigation Satellite System to global coverage, the industries' annual product will hit 400 billion yuan (65.11 billion U.S. dollars), under the plan. The BeiDou system will have about 800 million users by then, predicted a white paper released by the Global Navigation Satellite System and Location Based Service Association of China on Sept. 24. The system and its compatible products will receive general acceptance in the national economy's key sectors and fields, and will be promoted in the mass market by 2020, said the plan. It also stressed the need to improve the system's infrastructure and make breakthroughs in core technologies. The BeiDou system will include more



than 30 satellites and a ground control operation system by 2020 in order to serve global clients, the plan added. (source: [Xinhua net](#))

Software copyright registrations soar in 2012

China received nearly 140,000 new software copyright registrations in 2012, a year-on-year increase of 27.33 percent, according to the latest figures. The statistics were revealed Monday in a report on China's software copyright registrations in 2012, which was drafted by the Copyright Protection Center of China (CPCC). Of last year's total registrations, eastern regions accounted for nearly 80 percent. Meanwhile, the central and western regions of China saw faster growth rates with increases eight and five percentage points higher than the country's average, respectively, the report said. According to the report, last year's registrations for cloud computing software totaled 1,946, a year-on-year increase of 119 percent, while cell phone gaming application registrations reached 1,739, up by 74 percent year on year. China began to register software copyrights in 1992 in a bid to protect the rights of software owners. (source: [China Daily](#))

8.2 Voices & Opinions

Chinese VP calls for strengthened co-op with EU in high technology

China and the European Union (EU) should undertake preparations for negotiations on an investment agreement and strengthen cooperation in the fields such as high technology, Chinese Vice-Premier Ma Kai said on Friday.

Cooperation between China and the EU would not only benefit themselves, but also the world, Ma, who arrived here Thursday for a high-level dialogue on trade and economic relations (HED) between the two partners, said at a meeting with European Commission President Jose Manuel Barroso.

The high-level and strategic dialogue between the EU and China is very important, said Barroso, adding the HED has laid a good foundation for the upcoming EU-China summit in Beijing next month, which will be the first meeting with a new generation of Chinese leaders. (source: [China Daily](#))

Xi urges overseas-educated talents to contribute to Chinese dream

Chinese President [Xi Jinping](#) on Monday 21 October called on overseas-educated talents to contribute to realizing the Chinese dream of national rejuvenation, whether they are at home or abroad. Xi made the remarks at the 100th anniversary of the establishment of the Western Returned Scholars Association. The government supports students and scholars studying abroad,



encourages them to return to China, guarantees them the freedom of coming and going, and supports them in using their talents, Xi said while addressing the ceremony attended by about 3,000 people. The Communist Party of China and the government respect the choices of the students, Xi said. "You are warmly welcome if you return to China. If you stay abroad, we support you in serving the country in various ways." Xi said he hoped the students would remain patriotic, integrating their own achievement with national development. Scholars are encouraged to use their advantages to promote exchange between China and other countries so that China can gain more understanding and support from the world, he said. It has been more than 100 years since China began to send students and scholars to study abroad. They have made great contributions to the revolution, building and reform of China. In 1978, China expanded the number of students sent to study abroad. By the end of 2012, 2.64 million had been sent abroad, among whom 1.09 million returned. (source: [Xinhua net](#))

Four gaps that hinder overseas talents' return to China

According to a research by the experts in Harvard University on the Chinese overseas top talents, 91.8 percent of Chinese overseas talents admit that there are better development opportunities in China. However, the gaps on career development, living environment, mobility condition and education environment with the developed countries still trouble their determination to go back home. Facing a stagnant economic situation overseas, 800,000 Chinese students have returned home in the past five years after studying overseas, a trend that is likely to continue. According to an employment report of Chinese overseas students in 2012 released by Chinese Ministry of Education, among the overseas students who have returned to China, 76 percent obtained master degrees, only 11.2 percent had doctorate degrees. In 2005, 89.4 percent Chinese overseas with doctorate degree chose to work in the U.S., and the ratio decreased to 82 percent in 2011. (source: [People](#))

Academic graft a disease that must be cured

Corruption in China's science research and development (R&D) institutions is not news, especially in terms of the application and management of R&D budgets. But according to the remarks of [Wan Gang](#), China's minister of science and technology, it is getting worse. The minister told the press on Friday that a couple of serious cases of R&D budgets being embezzled have been discovered, and he is very "angry, distressed and astounded." Based on a report released by the China Association for Science and Technology two years ago, only 40 percent of budgets were actually used on scientific research, while the rest was usually spent on unrelated events. China's annual investment in recent years in R&D was 1 trillion yuan (\$163.6 billion) on average. This means more than 600 billion yuan of the budget is misused each year. (source: [Global Times](#))



Are Nobel prizes out of reach for Chinese scientists?

Fu Yu stood in the shady yard of the Chinese Academy of sciences and pointed to a building to be completed soon. "I will have my own laboratory there, inside the new building of the Institute of Microbiology," he said. In January, the 40-year-old scientist left Harvard and returned to China. He said he looked forward to completion of his laboratory so that he could soon devote himself to scientific research. "Internationally, the golden age of a scientist is between 35 and 55 years old -- now is the time," said Fu. To attract more scientists in their prime to return to China, the country officially started its "Thousand Youth Talents Plan" in December 2012 to provide support for the country's science and technology development over the next 10 to 20 years. As more overseas elites return to China's universities and scientific research institutes, people have started to wonder: how far are we actually from the Nobel prize in science? (source: [Global Times](#))

Study of Scientific Outlook on Development stressed

Members and officials of the Communist Party of China (CPC) have been told to strengthen studies and practice of China's Scientific Outlook on Development theory. The instructions were carried in a statement released after a Monday meeting of the Political Bureau of the CPC Central Committee, which was presided over by CPC leader Xi Jinping. The meeting reviewed the Guideline on the Study of the Scientific Outlook on Development and reached a decision to release the document among the whole of the Party. According to the statement, the guideline expatiates on the meaning, scientific connotations and spiritual essence of the Scientific Outlook on Development. It also lays down basic requirements for the implementation of the theory. The Scientific Outlook on Development was put forward in 2003 at the Third Plenary Session of the 16th CPC Central Committee to facilitate overall, coordinated and sustainable development. The statement said that the guideline provides crucial references for all CPC members, officials and the people to study and grasp the theory while pointing out its inner connections with Deng Xiaoping Theory and the important thoughts of Three Represents. According to the statement, the Scientific Outlook on Development should be studied alongside Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory and the Three Represents. It should also incorporate study of the history of the CPC and the country as well as major decisions and arrangements made by the central authorities. The statement stressed promoting economic and social development, people-oriented standpoints, sustainable development and overall planning taking all factors into consideration as key principles that should be adapted by students during study. CPC members and officials were urged to associate the study with their own work and local realities, with a special focus on researching and solving major issues in reform and development as well as people's urgent needs in life and work. (source: [Qiushi](#))



8.3 Thematic Activities

Health

Chinese researchers develop H7N9 flu vaccine

Chinese researchers announced Saturday they had successfully developed the vaccine for the H7N9 bird flu virus, after the flu strain had left more than 130 people infected, with 45 fatalities reported. Shu Yuelong, director of the Chinese National Influenza Center, said this is the first influenza vaccine ever developed by Chinese scientists. The vaccine has provided important technical support to battle the new flu strain, making contribution to the H7N9 flu virus epidemic control all over the world, said Shu, also director of the WHO Collaborating Center for Reference and Research on Influenza. The vaccine was jointly developed by the First Affiliated Hospital under the School of Medicine of the Zhejiang University, Hong Kong University, Chinese Center for Disease Control and Prevention, National Institute for Food and Drug Control, and the Chinese Academy of Medical Sciences. (source: [Global Times](#))

Study shows PM1 air pollution is most harmful

A recent study led by Chinese scientists shows a strong link between smaller air pollution particles and a range of serious health conditions. Scientists said the smaller the airborne particles, the more likely they are to cause illness, suggesting the need for monitoring of particulate matter of 1 micron or less in diameter — a category of pollution rarely monitored. In recent years, many locations across the country have been blanketed with heavy air pollution, raising concerns for public health. Among the main categories of pollutant measured is PM2.5, which can enter the respiratory system and contribute to a range of illnesses, including cardiovascular disease. Now, in a new study published in the public health journal *Environmental Health Perspectives*, researchers from the School of Public Health at Fudan University in Shanghai have demonstrated correlations between PM2.5 pollution and the incidence of particular illnesses. Researchers spent about two years collecting data in a medium-sized city in northern China, measuring the levels of particulate matter in 23 size categories ranging from 0.25 microns to 10 microns. They then plotted the health conditions of residents in the city against the concentrations of particles of different sizes found in their locations. Among the key findings was that those areas with larger concentrations of smaller particles showed higher incidences of particular illnesses. "Our study, based on epidemiological investigation, showed that fine particles in the air measuring between 0.25 to 0.5 microns in diameter have a closer relationship to human health, especially an increased risk of cardiovascular diseases," said Kan Haidong, a professor at the School of Public Health at Fudan University. The fine particles measuring between 0.25 to 0.5 microns in diameter accounted for about 90 percent of the total number of particles found in the air during the study. (source: [China Daily](#))



Fluorogenic Probing of Specific Recognitions between Sugar Ligands and Glycoprotein Receptors on Cancer Cells by Economic Graphene Nanocomposite

The specific intercellular recognitions between ligands and protein receptors, such as those between the saccharide chains pervaded on the cell surface of nearly all living organisms and their cognitive glycoprotein receptors, are a class of pivotal natural interactions that trigger cell responses, ultimately leading to the activation of a number of crucial physiological and pathological events such as cell-cell adhesion, cell development and differentiation, virus invasion, bacterial infection, and cancer metastasis. The ingenious probing of the sugarbased ligand-transmembrane receptor interactions therefore represents a significant subject of research that will contribute to the study of the "glycomics" as well as facilitate the early-state disease diagnosis and drug and vaccine development. Researchers from Shanghai Institute of Materia Medica and East China University of Science and Technology unraveled, for the first time, that a hepatic cancer cell line expressing transmembrane glycoprotein receptors that exclusively recognize a sugar ligand can be specifically probed by a simple devised GalNAc-pervaded GO sensor in a fluorogenic manner. (source: [CAS](#))

Hippo Signaling Regulates Brahma to Influence Intestinal Stem Cell Proliferation

Brahma (Brm) complex is a SWI/SNF-related chromatin remodeling complex required to correctly maintain proper states of gene expression through ATP-dependent effects on chromatin structure. Recently, researchers from the Chinese Academy of Sciences revealed that Brm complex, regulated by Hippo signaling, is required for intestinal stem cell (ISC) proliferation. They identified that Hippo signaling induces caspase-dependent cleavage of Brm to regulate the protein level of Brm. Under the supervision of Prof. ZHANG Lei and Prof. ZHAO Yun at the Institute of Biochemistry and Cell Biology (SIBCB), Shanghai Institutes for Biological Sciences, Dr. JIN Yunyun and her colleagues uncovered that Brm complex is required for ISC proliferation and damage-induced midgut regeneration in a lineage-specific manner. Brm is the ATPase subunit of Brm complex. They observed that *Drosophila* ISCs and enteroblasts (EBs) exhibited high levels of Brm protein, whereas, without Brm, ISC proliferation and differentiation were impaired. (source: [CAS](#))

Researchers Discover Key Factor Governing Lung Cancer Cell Plasticity

Tumor metastasis is the leading cause of high lethality for human cancer patients. Scientists have discovered that the epithelial-mesenchymal plasticity plays critical roles in achieving the long-distance metastasis of cells. Recently, researchers from the Chinese Academy of Sciences uncovered that hepatocyte nuclear factor 6 (HNF6) is a key transcription factor governing human lung cancer cell plasticity. Epithelial plasticity is important for the reversible biological



process called epithelial-to-mesenchymal transition (EMT) and mesenchymal-to-epithelial transition (MET), through which cell's identity can be changed. EMT and MET have increasingly been recognized to be implicated in the metastatic cascade of tumors, a process researchers have only began to understand in recent years. YUAN Xinwang and his colleagues, guided by Dr. SONG Jianguo at the Institute of Biochemistry and Cell Biology (SIBCB), Shanghai Institutes for Biological Sciences detected a rapid and sustained decrease of the HNF6 expression during TGF- β induced EMT. And HNF6 was positively correlated with the epithelial characteristics and negatively correlated with the mesenchymal properties in lung cancers. Besides, cells with HNF6 depletion underwent spontaneously EMT and became highly motile in the lung cancer, whereas overexpression of HNF6 significantly inhibited the migration and invasive growth of lung cancer cells by the induction of MET. (source: [CAS](#))

Two Germline Mutants Synergize to Promote Tumorigenesis

Familial cancer usually happens in the early stage of one's life, presumably due to the constitutive and continuous action of the cancer-predisposition genetic alterations. Recently, researchers led by JI Hongbin and ZHAO Yun, at the Institute of Biochemistry and Cell Biology (SIBCB), Shanghai Institutes for Biological Sciences identified a familial syndrome with the germline mutations of tumor suppressor gene *P53V157D* and mismatch repair gene *PMS2R20Q*. Both mutants are capable of promoting tumor formation from *in vitro* study as well as *in vivo* model system study under the DNA-damaging condition. (source: [CAS](#))

Cancer research launched

Fudan University Shanghai Cancer Center started a two-year research program Saturday to help prevent breast cancer in young women by better identifying the risk factors for the disease, local media reported. Data from the Shanghai Municipal Center for Disease Control and Prevention shows that incidences of breast cancer in women with Shanghai household registration is increasing by 3 percent to 4 percent annually, according to a report in the Shanghai Morning Post. The research group plans to conduct comparison studies among women under 40, including healthy people, patients with benign breast conditions and those with breast carcinoma. (source: [Global Times](#))

China launches TCM census

The State Administration for Traditional Chinese Medicine (TCM) on Thursday announced the first national census on TCM resources in more than two decades. "The last TCM census was more than 20 years ago, and the TCM industry has been since developing rapidly. The demands and applications of TCM materials have expanded in the interval, and the types, distribution, quantity and quality of TCM resources changed greatly," said administration spokesman Wang Lian Thursday at a press briefing. (source: [Xinhua net](#))



China allocates funds to support traditional medicine

The Chinese central government has allocated 1.49 billion yuan (about 242.67 million U.S. dollars) to a subsidy fund to support development of traditional Chinese medicine (TCM) in the rest of 2013, the Ministry of Finance announced on Wednesday. The move came after the State Council issued guidelines on Monday to boost the nation's health service sector. According to the guidelines, the nation has required relevant authorities to take advantage of TCM in disease prevention and healthcare. The new fund will be used to promote research and development of TCM at the grass-roots level, establish workshops for senior and famous doctors, construct special medical centers in rural areas and fund human resources training, according to the ministry. (source: [Xinhua net](#))

Synaptic Mutant Huntingtin Inhibits Synapsin-1 Phosphorylation and Causes Neurological Symptoms

Huntington's disease (HD) is an inherited neurodegenerative disease caused by a polyglutamine (polyQ) expansion of >37 glutamines in the HD protein huntingtin (htt). In HD, degeneration occurs preferentially in striatal neurons and extends to other brain regions as the disease progresses. One possible explanation for this is that mutant proteins preferentially affect the specific structures and biological properties of neurons. Considering that neuronal cells have unique, long neuronal processes and synapses that may be vulnerable to toxic proteins and insults, many studies have focused on synaptic function, revealing that synaptic dysfunction is the common pathological event in a variety of neurodegenerative diseases. However, because of the widespread subcellular distribution of mutant htt and the wide range of its toxic effects, the contribution of mutant htt in synapses to the development of neurological symptoms in HD remains unknown. Many genetic mouse models of Huntington's disease (HD) have established that mutant huntingtin (htt) accumulates in various subcellular regions to affect a variety of cellular functions, but whether and how synaptic mutant htt directly mediates HD neuropathology remains to be determined. Recently, researchers in Dr. LI Xiaojiang's group from both Emory University and Institute of Genetics and Developmental Biology, Chinese Academy of Sciences (IGDB) found a typical role of synaptic mutant htt to mediate HD neuropathology. (source: [CAS](#))

China regulates TCM ingredients

China's drug watchdog has acted to regulate the 17 markets of traditional Chinese medicine ingredients (TCM) and banned the opening of new markets. At Wednesday's press conference, the China Food and Drug Administration (CFDA), the Ministry of Agriculture and the Ministry of Industry and Information Technology, among eight central departments announced joint regulation on TCM ingredients. Supervision of growing, processing and market management



for medicinal herbs should be stepped up, said Li Guoqing, director of the CFDA's department of drug and cosmetics sales supervision. According to the CFDA, improper use of pesticides and fertilizers has caused harmful substances to remain in TCM ingredients. Dyeing and counterfeiting problems have seriously affected TCM quality and harmed public health. (source: [Xinhua net](#))

Scientists Enlighten Composition and Characterization of Novel Cordyxanthins

Carotenoids, a class of medicinal components, showed activities in anticancer, antioxidation, eyesight enhancing, improving embryo development, softening blood vessels and neuron protection. *Cordyceps militaris* fruit bodies are rich in carotenoids and could be used as functional food for carotenes supplementation. Though previous research has found that total carotenoids of *C. militaris* fruit bodies could be significantly increased by stimulation of short wavelength light, however, the chemical composition and properties of carotenes of *C. militaris* are still unknown. Dr. DONG Jingzhou, under the supervision of Prof. WANG Qing and Prof. WANG Ying from Wuhan Botanical Garden investigated composition, direct quantification and light wavelength reaction of the main cordyceps carotenoids of *C. militaris* fruit bodies to provide theoretical basis for production and utilization of *C. militaris*. (source: [CAS](#))

Chinese-produced vaccine prequalified by WHO

A Chinese-produced vaccine against [Japanese](#) encephalitis has been prequalified by the World Health Organization (WHO), said the China Food and Drug Administration (CFDA) on Wednesday. The WHO notified the administration Wednesday that the vaccine has been added to its list of prequalified medicines, the first Chinese-produced vaccine on the list, according to a CFDA statement. The move indicates that the WHO has given the vaccine its stamp of approval in safety and efficacy, and [United Nations](#) procuring agencies can source it, said a WHO press release on its website. (source: [Xinhua net](#))

Study Reveals MicroRNA Coordinating Survival and Apoptosis of Neural Progenitor Cells Derived from Human Embryonic Stem Cells

Neural progenitor cells (NPCs) derived from human embryonic stem cells (hESCs) have great potential in cell therapy, drug screening and toxicity testing of neural degenerative diseases. However, the molecular regulation of their proliferation and apoptosis, which needs to be revealed before clinical application, is largely unknown. Researchers from the Institute of Health Sciences, Shanghai Institutes for Biological Sciences and Shanghai Jiao Tong University School of Medicine, use hESC neural differentiation model to unveil the molecular mechanism underlying neurotoxin-induced apoptosis in NPCs. A team of researchers led by stem cell biologist JIN Ying, director of CAS Key



Laboratory of Stem Cell Biology, have successfully established several hESC lines with unlimited self-renewal and pluripotent ability and generated NPCs from two independent hESC lines. (source: [CAS](#))

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Food, agriculture & fisheries, biotechnology

RiceWiki: A Wiki-based Database for Community Curation of Rice Genes

A platform named [RiceWiki](#) has been developed recently by Professor ZHANG Zhang and his team at Beijing Institute of Genomics, Chinese Academy of Sciences (BIG), associated with research partners at Huazhong Agricultural University, Beijing Institute of Technology, and Chinese Academy of Forestry. Rice (*Oryza sativa*) is not only the most important staple food feeding a large part of the world population, but also an important model organism for biological studies of crops as well as other related plants. For this reason, rice was chosen as the first crop for whole genome sequencing. With the development of studies on rice genome and transcriptome, multiple databases have been developed, such as BGI-RIS, TIGR, RAP-DB and RGKbase etc. RiceWiki is a wiki-based, publicly editable and open-content platform for community curation of rice genes. Most of the existing rice databases are based on expert curation, which becomes increasingly laborious and time-consuming to keep knowledge up-to-date, accurate and comprehensive, struggling with the flood of data and requiring a large number of people getting involved in rice knowledge curation. Unlike extant relevant databases, RiceWiki features harnessing collective intelligence in community curation of rice genes, quantifying users' contributions in each curated gene and providing explicit authorship for each contributor in any given gene, with the aim to build a rice encyclopedia by and for the scientific community. (source: [CAS](#))

Novel Mechanism of Bisphenol A Removal during Electro-enzymatic Oxidative Process Proposed

Researchers with Institute of Process Engineering, Chinese Academy of Sciences investigated the catalyzed removal of bisphenol A (BPA) by a horseradish peroxidase (HRP) in the presence of humic acid (HA) in their recent work. A new mechanism of BPA removal during electro-enzymatic oxidative process was proposed. Chain reactions were changed from self-polymerization to cross-coupling oxidation. High performance liquid chromatography with diode array detector (HPLC-DAD) and high performance size exclusion chromatography (HPSEC) were used to test the products during the reaction. It was found that BPA was removed totally within two minutes reaction time under an optimal condition. The results showed that under the oxidation of in situ hydrogen peroxide on HRP electrode, the BPA first is polymerized into self-



polymers, and then, the polymers may be incorporated into HA matrix and formed larger MW of (BPA)n-HA compound. (source: [CAS](#))

Experts push for more data about GM foods

Agricultural experts and the public are calling on authorities to accelerate progress on information disclosure about genetically modified food as the expiration date of biosafety certificates for two strains of GM rice approaches. Questions from the public over the safety of GM food have grown in China since the Ministry of Agriculture issued biosafety certificates for two strains of pest-resistant GM rice in 2009. The strains still need registration and production trials, which will take three to five years, before commercial planting can begin, according to the ministry. The certificates will expire on Aug 17, 2014, according to Huazhong Agricultural University, the developer of the two strains. (source: [China Daily](#))

Scientists requested central government to plant GM crops

Experts in genetically modified product research have revealed that they petitioned the central government in July to increase the production of genetically modified crops. More than 60 academicians from the Chinese Academy of Sciences and the Chinese Academy of Engineering signed the petition and submitted it to the government, said Li Ning, an academician from the Chinese Academy of Engineering and professor at China Agricultural University. Speaking to China Daily on Sunday, Li, who also signed the petition, described the GM crop situation in China as "extremely grave". China is one of the largest consumers of GM produce, but it currently depends on imports, rather than growing and selling its own GM crops, according to Li. (source: [China Daily](#))

AOA More Important Than AOB in Nitrification and NO₃-N Loss in Acidic Soil of Sloped Land

Nitrogen cycling is one of the important elements geobiochemical circulations and plays an irreplaceable role in element balance. Nitrification is an essential process in the global N cycle in which ammonia (NH₃) is biologically oxidized to nitrate (NO₃⁻) by ammonia oxidizers. As the first and rate-limiting step of nitrification, ammonia-oxidizing microorganisms were studied by many researchers. They reported that soil pH, temperature, moisture, organic matter and fertilization have made important effects on the composition and activity of these microorganisms in different terrestrial ecosystems. However, little is known about the impact of long-term land use types on composition of their communities in sloped land and the relationship between NO₃-N loss with these microorganisms. Since 2009, the researchers in Institute of Subtropical Agriculture, Chinese Academy of Sciences (ISA) have paid attention to the relationship between nitrification with ammonia oxidizers in sloped land. They collected the soil samples from natural forest (NF), cropland (CL), and tea



plantation (TP) plots in a long-term sloped land use experiment at the Taoyuan Agro-ecosystem Research Station. They found that land use types induced significant changes in soil potential nitrification rate and community composition, diversity, and abundance of both ammonia-oxidizing bacteria (AOB) and ammonia-oxidizing archaea (AOA). (source: [CAS](#))

Animal welfare to be added in training

The Ministry of Education has included the topic of animal welfare in the curriculums of veterinary medicine courses this school year, reflecting the country's rising concern for animals, an expert said. Jia Zili, secretary-general of the Chinese Veterinary Medical Association's Animal Health Service and Welfare Branch, told China Daily that the ministry has included animal welfare as a compulsory course in veterinary education. "Animal welfare is still not widely accepted, even among veterinarians, who are probably the closest to animals," said Jia, who has been involved in negotiations over the new policy. (source: [China Daily](#))

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Information & communication technologies

Chinese firm aims to top 3D printing sector

The growing demand for 3D printers in China will help Beijing-based TierTime Technology Co Ltd become the world's largest manufacturer by next year, company executives said on Tuesday. "Our plan is to further expand the local market with affordable machines, and if that goes well, the company will be the No 1 3D printer provider in 2014," said Guo Ge, CEO of the company. TierTime is the biggest player in Asia and the third-largest worldwide in terms of shipments. The company is poised to sell more than 10,000 desktop 3D printers by the end of this year, Guo said. Roughly 80 percent of the products are heading to developed markets such as the United States and the European Union. The global annual shipment is around 100,000 units. TierTime is adding investment in China, where experts believe the market size is set to surge. (source: [China Daily](#))

Chinese researchers develop naked-eye 3D tablet

Researchers from the Shanghai Jiao Tong University (SJTU) have developed a naked-eye 3D tablet computer, which should be in the shops by the end of this year. Naked-eye 3D technology has put 3D lens onto the screen, allowing viewers to watch 3D images without glasses, Fang Yong, deputy director of the spectrum modulation technology center at the SJTU Wuxi Research Institute, said on Tuesday. Users will not suffer from eye-strain or dizziness. According to Fang, the research team has filed a patent and the televisions and computers



with the technology are on the way. The tablets are expected to be available this year at a price of 2,000 yuan (\$328) to 3,000 yuan, the television will be put to the market in two years, he said. (source: [Global Times](#))

Big challenges lie ahead for urban planners

What is the biggest hurdle for a technological revolution on the scale of the smart city movement in China? It's certainly not a lack of interest. Just as the country's construction boom has been a magnetic draw for world-class architects, the nascent smart city market has also attracted people who are not afraid to think big. George Thomas, general manager of the smart city program for IBM Greater China, has been leading a team implementing smart city solutions in China in recent years. Peter Lacy, managing director of Accenture Sustaining Services Asia Pacific, moved to Shanghai 20 months ago. He said that although places such as London, New York, Singapore and Amsterdam are important gateways for the company's smart city business, "China is the No 1 priority in the world for us". According to CCID Consulting, China's market for smart city solutions increased 15.2 percent year-on-year to 137.7 billion yuan (\$22.57 billion) in 2012. It's expected to jump to 500 billion yuan in 2015. Wu Lun, a professor at Peking University and deputy dean of the university's Institute of Digital China, said that the market could even exceed 1 trillion yuan by 2015 if spending on infrastructure, data-processing facilities and service platforms is included. But Chinese engineers still fear that potential clients, mostly urban governments, may not be so committed financially. In early October, the first national smart city industry association was founded in Beijing, with more than 100 members ranging from IT companies and equipment makers to consulting firms. Many member companies of the China Smart Cities Industry Alliance said they are not afraid of competition from international companies, because they have some very advanced solutions on offer. What they worry about is funding. (source: [China Daily](#))

China unveils plan for information-based growth

China's Ministry of Industry and Information Technology (MIIT) on Thursday unveiled a plan for promoting informatization in its social and economic development over the next few years. "Deepening informatization plays an important role in accelerating economic restructuring and growth pattern transformation, driving up effective investment and consumption demand, and continuously improving people's livelihood," the MIIT said in a statement. Informatization refers to the utilization of information technologies and the development and use of information resources in social and economic development, according to a government document released in 2006. By 2015, China will make substantial progress in integrating information technology with industrialization and promoting informatization in all aspects of its social and economic development, according to the plan. "The Informatization Development Index (IDI) will reach 0.79 by 2015," the plan said. (source: [China Daily](#))



Xinhua Insight: China's Silicon Valley becoming Internet finance breeding ground

Beijing is wooing Internet-based financial services such as online peer-to-peer lending and crowd financing to move their activities to its technological hub, promising perks from lower rents to cash rewards. Beijing's Haidian District, which administers Zhongguancun, known as China's Silicon Valley, has carved out three plots for Internet-based financial service companies as part of its effort to lead the nation's innovation drive. The municipal authorities hope more such firms will make Zhongguancun their home after the district announced on Saturday a raft of measures to create a business-friendly environment. "Haidian District's support is just a beginning. The city will provide continuous support for the development of Internet finance," said Li Shixiang, deputy mayor of Beijing. (source: [Xinhua net](#))

Scientists achieve Internet access through lightbulbs

Successful experiments by Chinese scientists have indicated the possibility of the country's netizens getting online through signals sent by lightbulbs (LiFi), instead of WiFi. Four computers under a one-watt LED lightbulb may connect to the Internet under the principle that light can be used as a carrier instead of traditional radio frequencies, as in WiFi, said Chi Nan, an information technology professor with Shanghai's Fudan University, on Thursday. A lightbulb with embedded microchips can produce data rates as fast as 150 megabits per second, which is speedier than the average broadband connection in China, said Chi, who leads a LiFi research team including scientists from the Shanghai Institute of Technical Physics of the Chinese Academy of Sciences. (source: [China.org](#))

China says Seoul meeting discusses cyberspace cooperation

China on Wednesday said an international meeting in Seoul has nothing to do with the six-party talks on Korean nuclear issues. "As I know, a meeting on cyberspace will take place in Seoul from Thursday to Friday, aiming at discussing cyberspace issues and promoting international cooperation," Foreign Ministry spokeswoman Hua Chunying said at a daily press briefing. The meeting will involve delegates from Republic of Korea, China, the United States, Russia and Japan. Hua said representatives of the five countries will have a breakfast meeting and discuss cooperation on cyber security. "The meeting has nothing to do with the six-party talks," Hua said. (source: [Xinhua net](#))

Huawei announced new R&D center in UK

Chinese telecom giant [Huawei Technologies](#) Co Ltd said it will invest \$200 million and build up a new research and development center in the United Kingdom, according to Ren Zhengfei, the company's founder and chief



executive officer. In a company press release, [Huawei](#) made a rare move to disclose its founder's daily activities. The company said Ren met with UK chancellor George Osborne, who paid a visit to Huawei's Shenzhen headquarters on Wednesday. Ren said the new R&D center will be founded on basis of the current Ipswich research office, which now owns about 80 staff. By 2017, the new R&D center will have a senior researcher number of more than 300. The exact location of the new R&D center has yet been decided. The center will focus on areas of optoelectronics, terminal design and [software](#) development. Huawei will apply its research progress to serve clients in 140 markets worldwide, said the company. (source: [China Daily](#))

Shanghai opens interactive robot exhibition

The country's first exhibition hall of robot technology and culture, which will work to educate the public on robots, opened in Shanghai on Friday. The public will be able to make robots, play interactive games with robots and watch performances given by more than 200 robots from various countries at the hall. Courses on making robots have for the past 10 years been taught in some primary and middle schools in the municipality and teachers said the students are interested in making robots, which broadens their cognitive abilities. (source: [Xinhua net](#))

LeTV launches new smart TV

Beijing-based LeTV Information Technology Co unveiled a new smart TV model Thursday in an attempt to boost its product lineup and grab more market share amid fierce competition from local rivals. The company decided to launch the 50-inch S50 smart TV mainly because many buyers complained that LeTV's previous two models - the X60 (a 60-inch smart TV) and S40 (39 inches) - were either too big or too small, Liang Jun, a vice president with LeTV, said Thursday at the press conference in Beijing. "The largest consumption of smart TVs, ranging from 48 to 50 inches, will be seen in 2014," said Liang, suggesting that the company has made an advanced step in this segment since more traditional TV makers and technology firms are rushing into the domestic smart TV market. (source: [Global Times](#))

Up, up, Huawei finds new friends in Europe nations

The Chinese telecommunications company's fortunes continue to rise globally. After the Chinese telecommunications company Huawei opened an exhibition center near Amsterdam recently, Eberhard van der Laan, the city's mayor, sang the company's praises to business leaders in a speech. "I learnt the concept of clouding technology during my visit to Huawei headquarters in Shenzhen two years ago," he says. The telling of that anecdote is typical of Van der Laan's unstinting praise of Huawei's contribution to his city and his country. Yet 10 years ago when Huawei, now a global leader in its field, sent Patrick Zhang to Europe to explore market opportunities, he says he was unsure about what kind



of reception it would receive. The company ended up receiving such a good hearing and gaining such widespread recognition that recently local radio in the Netherlands broadcast live when Huawei hosted a half-day forum on trends in global information technology and big data. Reflecting the company's growing presence in Europe, it has become the biggest Chinese investor in the Netherlands after 10 years of expansion. "When we first went to Europe, we virtually wandered the streets like tourists looking for customers," says Zhang, now president of marketing and solutions at Huawei Enterprise Business Group, in an interview in Amsterdam. "It was very hard. The first steps were particularly difficult." Huawei has been highly successful in Europe thanks to its strategy of localization and attaching great importance to research and development. It now has ties with 560 European channel partners in telecommunications operations, had a turnover in the continent of \$4.17 billion last year, and has more than 7,500 staff, most of them Europeans. With that success, the company decided in 2011 to take a new tack, offering information and telecommunications services to businesses directly rather than through other telecommunications companies. (source: [China Daily](#))

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Nanosciences, nanotechnologies, materials & new production technologies

Novel Process to Recover Alumina from Fly Ash Proposed

The industrial byproduct fly ash produced by thermal power plant is increasing every year and the amount is about 10 billion tons produced per annum in China. On the one hand, fly ash is a pollutant causing several environmental problems. On the other hand, it is useful resource to prepare alumina. Therefore, it is important to realize high value comprehensive utilization of fly ash. Although scientists have studied for over forty years to get alumina from low grade aluminum resource by leaching method, the increasing cost for equipment corrosion caused by high concentration hydrochloric acid and extraction of iron is key problem to solve. Professor LI Zhibao from Institute of Process Engineering, Chinese Academy of Sciences and Professor Asselin from the University of British Columbia, Canada developed a novel process to prepare alumina. $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$ was recovered from fly ash by salting-out crystallization with FeCl_2 . (source: [CAS](#))

Scientists see the light with 'smart window'

Researchers at Shanghai University say they have invented the first "smart window" that can save energy and generate electricity. Up until now, smart windows and solar cells could not be combined into one device. But scientists have made a breakthrough thanks to a new vanadium dioxide film. "A VO_2 film



can respond to the environmental temperature to intelligently regulate infrared transmittance while maintaining visible transparency, and this special optical property makes it an attractive material for thermochromic smart windows," said professor Gao Yanfeng at Shanghai University's School of Materials Science and Technology. VO₂, a crystalline powder, undergoes a reversible metal-semiconductor transition at a critical temperature of 68 C. It is insulating and transparent to infrared light below that temperature, but becomes metallic and reflective to infrared light above the temperature. "Its characteristic of being transparent to infrared at low temperatures and resistant to high temperatures can make the rooms mild in winter and cool in summer, so people can rely less on air conditioning," Gao said. (source: [China Daily](#))

Chinese Researchers Develop Way to Make Ultrahard, Ultrastable Metals

Chinese researchers said Thursday they have developed a simple and cost-effective way to make ultrahard and ultrastable metals, a technique that could find potential applications in a wide range of industrial manufacturing processes. How to make metals stronger by refining their microstructure has been a challenge for scientists, as tinkering with the microstructure of metals and alloys can make them thermally and mechanically unstable. Researchers from the Institute of Metal Research, part of the Chinese Academy of Sciences, reported in the US journal Science they refined the microstructure of pure nickel, a silvery-white metal usually used to manufacture industrial and consumer products, by what's known as plastic deformation, or putting enough stress on a metal to change its shape. To produce the desired ultrahard and ultrastable material, they developed a technique called surface mechanical grinding treatment and used it to shear the surface of a pure nickel sample, which produced microstructures in the metal. (source: [CAS](#))

Photoinduced Bending of Large Single Crystal Powered by [2+2] Cycloaddition Realized

Transducing an input energy stimulus into output energy that can power or accomplish mechanical work is a pervasive topic of many scientific disciplines. One of the current issues is to harness the natural and renewable energy sources which have spawned an ever-burgeoning pursuit of novel materials. Owing to the advantages in remote, temporal and spatial detection, light-induced deformable materials have emerged as excellent candidates for photomechanical applications. Despite the fact that some highly ordered molecular crystals with photomechanical motions have been reported, the scale of these single crystal materials are quite small (in nm or μm scale), which may limit their practical applications in real world. A research group led by Prof. ZHANG Jie at Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences (FJIRSM), has developed a strategy to facilitate the molecular deformation and motion amplification by engineering photoactive olefin derivative to increase molecular flexibility and controlling crystal packing through the cation- π interactions. (source: [CAS](#))



A Breakthrough in Imaging Chemical Bonds using Atomic Force Microscopy by Chinese Researchers

On September 26, *Science Express* published online a report by the researchers from the National Center for Nanoscience and Technology of China (NCNST) and Renmin University that they have successfully obtained the real-space images of hydrogen bonds and coordination bonds formed between molecules using a technique named atomic force microscopy (AFM). The result promises significant advances in the ability to investigate intermolecular interactions at the single molecular level. This research work was partially supported by NSFC grants (21173058, 21203038, 11274308, and 11004244). (source: [NSFC](#))

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Observation of Antiferromagnetic Order Collapse in Pressurized Insulator LaMnPO

The emergence of superconductivity in the iron pnictide or cuprate high temperature superconductors usually accompanies the suppression of a long-ranged antiferromagnetic (AFM) order state in a corresponding parent compound. Therefore, the suppression of the AFM order becomes one of the important approaches for exploring new superconductors. It is known that



chemical doping and applied pressure can tune the AFM order, especially pressure is a unique and clear way to do so without bringing chemical complexity. The physical properties of LaMnPO bear a strong resemblance to the parent compounds of cuprate high temperature superconductors and its crystal structure is same as the parent compound of iron pnictide superconductor $\text{LaFeAsO}_{1-x}\text{F}_x$. Thus it is thought that the LaMnPO can bridge the gap between the two families of high temperature superconductors, and provide a platform to uncover the underlying mechanism of high temperature superconductivity. From another perspective, searching for the potential superconductivity in Mn-based compounds is of special significance because no superconductivity has been discovered in Mn-based family. A great deal of efforts by doping has been made to explore the potential superconductivity in Mn-based compounds, but all were not successful. Recently, Prof. SUN Liling and Dr. GUO Jing *et al* in the Prof. ZHAO Zhongxian's group from the Institute of Physics, Chinese Academy of Sciences, in collaboration with Prof. Meigan Aronson from Stony Brook University and Prof. Gabriel Kotliar from Rutgers University found the pressure-induced elimination of long-ranged AFM order in LaMnPO single crystals. First, they found a crystal structure phase transition in LaMnPO sample by *in-situ* high-pressure synchrotron X-ray diffraction (XRD) measurements [PNAS, 109(2012)E1815] and computed the physical properties for the pressurized LaMnPO on basis of refinement results of the XRD data. Soon after, they performed *in-situ* high-pressure resistance and ac susceptibility measurements for LaMnPO single crystal and found a pressure-induced crossover from an AFM insulating state to an AFM metallic state at ~ 20 GPa. More intriguingly, the AFM order completely collapses at higher pressure of 34 GPa. These findings provide fresh information on exploring potential superconductivity in Mn-based compounds and shedding new light on the underlying mechanism of high temperature superconductivity. These results were published in *Scientific Reports*, 3, 02555 (2013). The work was supported by the National Basic Research Program of China (973 program, Grant No. 2011CBA00100 and 2010CB923000), the National Natural Sciences Foundation of China (Grant No. 11074294), and the Chinese Academy of Sciences. (source: [CAS](#))

Nuclear Analytical Techniques Applied to Nanotoxicology Research

Scientists from the Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety at the Institute of High Energy Physics, Chinese Academy of Sciences (IHEP) found that nuclear analytical techniques could be applied to nanotoxicology research. They present a comprehensive overview of nuclear analytical techniques applied to the physicochemical characterization of nanomaterials, structural analysis of bio-nano interactions, visualization of nanomaterials *in vitro*, quantification of bio-distribution, bio-accumulation, and transformation of nanomaterials *in vivo*. As important complementary tools, optical imaging technologies are also highlighted. Future directions regarding advanced nuclear analytical approaches for nanotoxicology are also discussed. Because of their advantages of absolute quantification, high sensitivity, excellent accuracy and precision, low matrix effects and non-destructiveness,



nuclear analytical techniques have been playing important roles in the study of nanotoxicology. (source: [CAS](#))

Modern Solid-state Fermentation Technology in the Production of Industrial Enzymes Available

Gas double-dynamic solid-state fermentation (GDD-SSF) technology for the production of industrial enzymes has been proven to successfully solve the problems of industrial production of biopesticide. However, few research using the technology in other fermentation industries. Bioreactor operation in solid-state fermentation (SSF) on a large scale was performed to test GDD-SSF's applicability for the production of various enzymes and this technology was developed by researchers from [Institute of Process Engineering, Chinese Academy of Sciences](#). The pilot-scale bioreactor for GDD-SSF of 800 L was self-invented in the research. Four kinds of enzymes including pectinase, glucoamylase, protease and cellulose were used to comparative study in two different fermentation modes, GDD-SSF and static SSF. (source: [CAS](#))

Elemental Photocatalysts for Solar Energy Conversion

As a promising process for solar-to-chemical energy conversion, photocatalysis provides a possible way of acquiring renewable energy. The prerequisite for realizing the practical applications of photocatalysis is to develop photocatalysts capable of efficiently utilizing visible light. Both modifying known photocatalysts and exploring unknown photocatalysts are significant in developing visible light responsive photocatalyst. Shenyang National Laboratory for Materials Science, Institute of Metal Research (SYNL, IMR) has been devoted to developing photocatalysts with a wide visible light response both by narrowing the bandgap of wide-bandgap semiconductors and exploring unknown photocatalysts. Recently scientists showed that elemental sulfur and boron can act as visible light responsive photocatalysts. (source: [CAS](#))

LiOsO₃ Undergoes Ferroelectric-like Structural Transition

Ferroelectricity is a property of certain materials, usually insulators, that have a spontaneous electric polarization that can be reversed by the application of an external electric field. It is widely believed that ferroelectricity cannot occur in metals because polarisation would be screened by the conduction electrons. Typically, materials demonstrate ferroelectricity only below a certain phase transition temperature, called the Curie temperature, T_c , where inversion symmetry is broken. In 1965, Philip Anderson, the Nobel prize laureate, together with his co-worker Blount proposed a concept of a so-called "ferroelectric" metal, which could exhibit similar structural transition behaviour as that of ferroelectrics materials, such as LiNbO_3 and LiTaO_3 . Unfortunately, up to now, no clear example of such a material has been identified. Recently, through the collaboration with other international research teams, including the



members from NIMS of Japan, and University of Oxford, SHI Youguo, an associate professor in WANG Nanlin 's group in Institute of Physics, Chinese Academy of Sciences (IOP), reported the discovery of a new 5d material called LiOsO_3 which remains a metal down to the lowest temperatures and yet undergoes a structural phase transition (Fig.1) that is identical to the ferroelectric transition in the well-known displacive ferroelectrics LiNbO_3 and LiTaO_3 . (source: [CAS](#))

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Environment (including climate change)



The Touting Mengke glacier is the largest valley glacier in the Qilian Mountain Range, located in Subei Mongolian autonomous county, Gansu province. [Photo/Xinhua]

Qilian Mountains glaciers are shrinking

The rise of the average annual temperature around the Touting Mengke glacier is causing area reduction of the glacier, according to the research from the Chinese Academy of Sciences. Experts predict small glaciers with an area of about 2 square kilometers and some parts of bigger glaciers will disappear before 2050. The glacier in the Qilian Mountain Range is the primary water source for many of the oases in Hexi Corridor in Gansu province. Water scarcity will become a significant problem as the glacier retreats over the years. Currently, tourism projects have been canceled for the Touting Mengke glacier. (source: [China Daily](#))

China Vows Better Wetland Preservation

China will continue to strictly protect its wetland resources and aim to increase the wetland area to 53.3 million hectares by 2020, a forestry official said on Thursday. "China will press forward with the ecological progress and lay a solid ecological infrastructure for sustainable economic development," said Zhao Shucong, director of the State Forestry Administration, at the opening ceremony of the third China Wetland Cultural Festival, held in Dongying, of east China's Shandong Province. China currently has about 36.2 million hectares of natural wetland, equating to 3.77 percent of the national territory, according to Zhao. He said the wetland is facing many problems such as shrinking area, dysfunction and decreasing biodiversity due to excessive development. "China is still facing a tough task to protect its wetland resources," the official noted. Zhao said China would strengthen exchanges and cooperation with other countries as well as related international organizations to draw on their advanced ideologies and technologies and establish a regional cooperative protection mechanism. (source: [CAS](#))

'Home of tomorrow' featured at housing show



A "home of tomorrow" — a new house model constructed with low-carbon technology and based on the principals of recycling was exhibited at the 12th China International Exhibition on Housing Industry on Wednesday 23 October. The house focused on introducing advanced low-carbon technology and products to the public. It also provides the opportunity for eco-designers to showcase their latest ideas and concepts. Also at the exhibition, 28 national housing industrialization bases including some cities and companies in the field showcased their exploration of modern developments in the housing industry and their achievements. The exhibition was organized by the Center for Housing Industrialization under the Ministry of Housing and Urban-Rural Development, the China Real Estate Association and the China Architectural Culture Center. It lasted three days. (source: [China Daily](#))

Most Chinese cities suffer air pollution in Q3

Seventy of the 74 monitored Chinese cities nationwide suffered from air pollution in the third quarter of this year, the environmental watchdog announced on Tuesday. Fifteen cities had less than 50 percent of the 92 days in the third quarter failing to meet the required standards set by the Ministry of Environmental Protection, according to the ministry. The ten cities with the most serious problems are Xingtai, Shijiazhuang, Tangshan, Handan, Jinan, Hengshui, Tianjin, Baoding, Zhengzhou and Langfang, most of them in the hinterland of the national capital, Beijing. Air pollution in Beijing and neighboring Tianjin and Hebei was worse than other parts of the country during the three months. The 13 monitored cities in the region had on average 62.5 percent, or about 58 days, failing to meet the required standards, while the national average stood at around 29 days. Air quality in all 74 cities met the standard in 68.9 percent, or on 63 days, up 6.4 percentage points from the previous quarter. O₃ and PM_{2.5} - airborne particles less than 2.5 microns diameter - are the major pollutants in the region, according to the report. (source: [China Daily](#))

Beijing adopts emergency response for air pollution

The Beijing municipal government officially adopted an emergency program on Tuesday to respond to the capital city's heavy air pollution. According to the Beijing Municipal Heavy Air Pollution Emergency Response Program, drivers in the city will only be allowed to use their cars every other day when a red alert, the highest warning level, is issued for air pollution. Cars with odd- and even-numbered license plates will be allowed on roads on alternating days according to the program, which was adopted by the Standing Committee of the Beijing Municipal Committee of the Communist Party of China last Wednesday. Meanwhile, 30 percent of municipal government cars will be banned from streets on an odd-even alternating basis. Fang Li, deputy chief of the city's environmental protection bureau, said the bureau would try its best to issue warnings 24 hours before heavy air pollution days. According to the Ministry of Environmental Protection, an air quality index (AQI) of over 300 is defined as "serious pollution" and an AQI between 201 and 300 is considered "heavy



pollution." Vehicles have been considered a major contributor to Beijing's heavy smog in recent years. A research team from the Chinese Academy of Sciences estimated that vehicle exhaust fumes contribute 22.2 percent of PM 2.5 particles in the city, exceeding the figure for industrial emissions. (source: [China Daily](#))

Draft requires environmental reviews of govt policy

A new draft amendment to China's Environment Law that was presented to lawmakers on Monday would require local governments to carefully consider how their long-term development strategies affect the environment. Currently, environmental impact reviews focus on individual projects, but no environmental restriction has been placed on overall development plans. Experts said the amendment is a good step forward. This is the third draft to the Environment Law. According to the draft, officials would be required to "consult with related parties and experts" if their policies may degrade the environment. (source: [China Daily](#))

CMA sets up a special center for environmental meteorology

China Meteorological Administration (CMA) set up a forecast and warning center for environmental meteorology of Beijing, Tianjin and Hebei on Wednesday. As a fresh move of China to respond to the air pollution in North China, the center is the first regional body for environmental meteorology in China, aiming to monitor and forecast haze, smog and other related environmental meteorology in Beijing and its neighboring Tianjin, Hebei and other North China areas. Forecast products and warning information will be released by this center including meteorological condition level for air pollution, and warnings of severe pollution weather, fog, haze and smog. Meanwhile, the center will also formulate and guide the environmental meteorology development for the region as well as make service standards and specifications. (source: [Xinhua net](#))

Ministry of Finance pledges \$817m to fight air pollution around capital

China's [Ministry of Finance](#) announced Monday that the central government has allocated 5 billion yuan (\$817 million) for rewarding air pollution treatment efforts in six provincial regions surrounding the capital. The fund will be used in six provincial regions and municipalities, including Beijing, Tianjin, Hebei, Inner Mongolia, Shandong and Shanxi to conduct integrated treatment. Being used as awards instead of subsidies, the fund will be distributed based on a year-end performance evaluation of each region's pollution control works, which features amount of reduction, investment in pollution control, and the decline ratio in PM 2.5 concentration - a particulate which contributes the most to the serious smog in the area. The policy could help implement the Airborne Pollution Prevention and Control Action Plan (2013-17) released in September by the State Council, which set the most stringent air pollution control target in five years, Wang Tao,



a scholar of climate research with Carnegie-Tsinghua Center for Global Policy, told the Global Times. An effective system to urge local officials to make air pollution treatment among their top priorities, which contains a strict accountability mechanism, matters more than funds, Wang noted. Zhao Zhangyuan, a researcher fellow with the Chinese Research Academy of Environmental Sciences, also took a wait-and-see attitude toward the fund's impact, arguing that environmental funds have been known to be embezzled and failed to meet the goals due to lack of supervision, while some local officials would massage the data. "Besides governmental supervision, independent environmental evaluation organizations make up an important force and they also need funds to carry out performance evaluation on local governments to ensure their efficacy," Zhao added. (source: [Global Times](#))

Scientists Predict the Formative Period of Glacial Landforms in the East of Qinghai-Xizang Plateau

Qinghai-Xizang Plateau, which has the highest mountain and the widest plateau in the world, is also the largest center of the glacial action except the North Pole and South Pole. So this region is the most actively region for geological structure on Earth. The northwest of the Die shan, as the western segment of the Qinling Mountains, is located in the eastern margin of the Qinghai-Xizang Plateau. Therefore, the research on the distribution and features of Glacial Landforms in the northwest of the Die Shan has important significant for the formative period and processes of the glacier in Qinghai-Xizang Plateau. Based on the distribution and features of glacial landforms, considering the present uplift speed of the Qinghai-Xizang Plateau, the available dating data of the glacial landforms in the Dalijia Mountain and the data of the palaeoenvironment in the neighboring areas, the results show that the glacial landforms are considered to be formed in the last glacial cycle, especially during the Last Glacial Maximum. The ancient glacier was an ice cap with a maximum area of about 38 km². Abundant whaleback rocks that present at about 4,200 m a. s. l. indicate that the ancient ice cap had a warm bottom. (source: [CAS](#))

Scientists Found the Laws of Climate Change in the Source Regions of the Yellow River

The Yellow River is the second largest river in our country, and the source regions of the Yellow River locates in the arid and semi-arid region, so the Yellow River is short of water resources seriously. Start from 1990s, the source regions of the Yellow River experiences a dry season for near 20 years, and it aggravates the imbalance between supply and demand of water resources in Yellow River basin. Therefore, under the background of global warming, the research on the climate change in the source regions of the Yellow River and its influence of river flow and the surface water resources is not only a current scientific topic but also a practical issue for establishing the plan on the sustainable development of water resources. Scientists from Cold and Arid Regions Environmental and Engineering Research Institute (CAREERI)



collected the database about the temperature, precipitation and water flow from the hydrologic station, precipitation station and meteorological station along the source regions of the Yellow River, and analyzed the characters and trends of the climate change in these areas. Results shows that there is a strong climate shift from warm-dry to warm-humid in the west of Northwest China in the late 1980s, such as Xinjiang and western Hexi Corridor of Gansu. A similar climate change has occurred since the mid-2000s in the source regions of the Yellow River, which is located in the east of Northwest China. (source: [CAS](#))

China Exclusive: "Water tower" gets warmer as climate change bites

Sanjiangyuan, the origin of China's three major rivers, has and will continue to become warmer and wetter as a result of global warming, latest monitoring data showed. The headwaters area, on the remote Qinghai-Tibet Plateau which normally features dry and cold weather, has seen its temperature rise 1.98 degrees Celsius and increasing rainfall between 1961 and 2012, said Li Lin, a senior engineer with Qianghai Provincial Meteorological Bureau. The average annual temperature rise in Sanjiangyuan during this period is higher than the national and global average, said Li, citing an advisory report on climate change policies, based on a survey carried out by the bureau. Statistics suggested the area has experienced more heat waves and fewer extreme cold days over the past five decades, Li said. Due to the rising temperature, the maximum depth of permafrost in the headwaters area has decreased on average by 12 centimeters every 10 years and most of the glaciers there are melting, he said. The report predicted that by 2100 the temperature in Sanjiangyuan will have risen 3 degrees Celsius from now. It said an increase of 1.1 degrees Celsius means 19 percent of the permafrost would thaw. (source: [Xinhua net](#))

Increased funding needed to monitor air quality: experts

Establishing a long-term system to guarantee funding for air quality monitoring will show China's resolve to fight pollution, environmental officials and experts say. In a national action plan to combat airborne pollution released on Sept 12, all 338 provincial-level cities are required to start monitoring six airborne pollutants, including PM2.5 - fine particles smaller than 2.5 microns in diameter that can cross the membranes of the lungs - and release the readings by the end of 2015. Seventy-four cities have started the preparatory work as required since Jan 1, and another 116 are expected to follow suit by the end of this year. (source: [China Daily](#))

China to build network to monitor smog impact on health

China will build a nation-wide network within three to five years to monitor the impact of air pollution on health, a latest step to deal with a persistent smog crisis in big cities, an official said. A total of 43 monitoring spots will be set up in 16 provinces and municipalities frequently engulfed by smog so as to facilitate research on air pollutants in different regions, the impact on the health of



vulnerable groups and the study of related diseases, said Xu Dongqun, an official with the Chinese Center for Disease Control and Prevention. With funds allocated by the central government, the study will provide reference for preventive efforts to reduce the PM 2.5, Xu said. (source: [Xinhua net](#))

Beijing to issue air pollution warnings

China plans to pilot an air quality warning system in the heavily-polluted cities of Beijing, Tianjin and surrounding areas next month amid the country's increasing efforts to tackle the much-concerned problem. China Meteorological Administration and the Ministry of Environmental Protection has jointly released the plan that put the alert system at three levels -- I being the highest and III the lowest. When the air quality index is set to go beyond 500, a level I warning will issued, and level II and III are for the index to be at between 300 to 500, 200 to 300, respectively, for three consecutive days. The plan came as China has been under growing pressure to address the causes of air pollution after heavy smog smothered large swathes of the country early this year. The government aims to cut the density of inhalable particulate matter by at least 10 percent in major cities nationwide by 2017. PM 2.5, a key indicator of air pollution, should fall by about 25 percent from 2012 levels in Beijing and surrounding provincial areas by 2017, according to a recent government plan. (source: [China Daily](#))

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Energy

China's energy demand growth likely to slow to 1.8 pct after 2020: SGCC

China's energy demand growth is expected to slow to 1.8 percent per annum in the 10 years after 2020, a top management member of the State Grid Corporation of China (SGCC) said on Monday. Yang Qing, executive vice president of the company, said at the Singapore International Energy Week that China's energy demand is growing at over 4 percent per year in the current decade. However, the growth may slow significantly in the decade between 2020 and 2030 as economic growth becomes greener and relatively slower. The growth in energy demand is likely to slow to 1.8 percent per year based on a projected growth of 5.3 percent for the Chinese economy, Yang said, citing a forecast by his company. He said that no official forecast had been announced for the decade between 2020 and 2030, but he was of the opinion that the energy consumption is "likely to peak some time between 2030 and 2040." (source: [Global Times](#))

Elemental Photocatalysts for Solar Energy Conversion



As a promising process for solar-to-chemical energy conversion, photocatalysis provides a possible way of acquiring renewable energy. The prerequisite for realizing the practical applications of photocatalysis is to develop photocatalysts capable of efficiently utilizing visible light. Both modifying known photocatalysts and exploring unknown photocatalysts are significant in developing visible light responsive photocatalyst. Shenyang National Laboratory for Materials Science, Institute of Metal Research (SYNL, IMR) has been devoted to developing photocatalysts with a wide visible light response both by narrowing the bandgap of wide-bandgap semiconductors and exploring unknown photocatalysts. Recently scientists showed that elemental sulfur and boron can act as visible light responsive photocatalysts. (source: [CAS](#))

Photoinduced Bending of Large Single Crystal Powered by [2+2] Cycloaddition Realized

Transducing an input energy stimulus into output energy that can power or accomplish mechanical work is a pervasive topic of many scientific disciplines. One of the current issues is to harness the natural and renewable energy sources which have spawned an ever-burgeoning pursuit of novel materials. Owing to the advantages in remote, temporal and spatial detection, light-induced deformable materials have emerged as excellent candidates for photomechanical applications. Despite the fact that some highly ordered molecular crystals with photomechanical motions have been reported, the scale of these single crystal materials are quite small (in *nm* or μm scale), which may limit their practical applications in real world. A research group led by Prof. ZHANG Jie at Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences (FJIRSM), has developed a strategy to facilitate the molecular deformation and motion amplification by engineering photoactive olefin derivative to increase molecular flexibility and controlling crystal packing through the cation- π interactions. (source: [CAS](#))

China eyes UK nuclear sector

Chinese companies could influence the next generation of nuclear power projects in the UK, as they will be allowed to take stakes in British nuclear power plants, following a new memorandum of understanding signed in Beijing this week. British finance minister George Osborne on Thursday announced that the UK will allow Chinese companies to take stakes in its nuclear power projects during a visit to the Taishan nuclear power station in Guangdong Province, which is a joint venture between CGN and French energy giant Electricite De France (EDF). The announcement came after the signing of the memorandum on civil nuclear collaboration witnessed by Osborne and Chinese Vice-Premier [Ma Kai](#), which sets the strategic collaboration framework on investment, technology, construction and expertise, according to a release by the British government on Thursday. (source: [Global Times](#))



AIT, QIIC Sign MoU on Low Carbon Energy Demonstration

The Austrian Institute of Technology GmbH (AIT) and the Qingdao Innovation and Incubation Centre for Industry Technologies of Chinese Academy of Sciences (QIIC) signed a Memorandum of Understanding (MoU) on September 30, 2013 to build collaboration on low carbon energy initiatives. According to the MoU, both sides shall provide scientific support for the demonstration project "low carbon energy technology, energy efficiency buildings and sustainable urban development" in Qingdao and shall join hands to conduct bilateral, domestic and international research projects. They also expressed the willingness to cooperate in the exchange and training of research staff and students. (source: [CAS](#))

Xinjiang to launch huge coal gasification project

A large coal gasification project will be built in northwest China's Xinjiang Uygur Autonomous Region, the regional authorities said Sunday. The demonstration project in Zhundong area, Changji Hui Autonomous Prefecture, will be the country's largest with a designed capacity of 30 billion cubic meters annually, said the region's development and reform commission. With a total investment of 183 billion yuan (about 29.7 billion U.S. dollars), the project will be jointly built by Sinopec, Huaneng Xinjiang Energy Development Co., Ltd. and some other energy companies in Xinjiang and eastern Zhejiang Province. The industrial project will need 90 million tonnes of coal annually. It will provide at least 18,000 jobs. The coal gas will be transported to booming provinces of Zhejiang in east China and Guangdong in the south through pipelines. The Zhundong area has estimated coal reserves of 390 billion tonnes and proven reserves of 213.6 billion tonnes, the largest coal field in China. With the development of new technologies, coal gasification is expected to be a key sector in the country's clean energy initiative. Several big coal gasification projects have been approved by the country's top economic planning body so far. (source: [Xinhua net](#))

Beijing to replace coal-fired power plants before 2015

Beijing will build four power centers by the end of 2014 to replace coal with natural gas in heating and power generation, municipal authorities said Saturday. Construction of the centers is part of the city's efforts to optimize energy mix and reduce emissions, according to officials with the Beijing Municipal Commission of Development and Reform. With investment of 47.7 billion yuan (7.79 billion US dollars), the four power centers and 40 other related utility projects will reduce sulfur dioxide by 10,000 tonnes, provide heating for 100 million square meters and generate 7.2 million kilowatts of electricity through natural gas. These services have so far been powered by four coal-fired power plants, which burned 9.2 million tonnes of coal in 2012, or 40 percent of the 23 million tonnes Beijing consumed in the same period. They will be shut down once the new power centers start operation. Heavy smog shrouded Beijing's sky during the seven-day National Day Holiday, prompting



concern about worsening air pollution in the nation's capital. Coal burning accounts for 16.7 percent of airborne particles measuring less than 2.5 microns, or PM 2.5, that is blamed for the smog. In a recently published action plan on cleaning Beijing's air, municipal authorities vowed to slash coal consumption by 1.3 million tonnes by 2017. (source: [Global Times](#))

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Transport (including aeronautics)

New bullet train to link Guangzhou, Qingdao

A new high-speed railway running from Guangzhou to Qingdao will open by the end of the year, said the Guangzhou Internet information center Tuesday on its official Weibo account. The new line, expected to alleviate the rail traffic tension between the southern metropolis and the eastern coastal city, will shorten the journey to only 11 hours, some 18 hours less than an ordinary fast train trip, which stops at 22 stations. T161, the only train so far connecting Guangzhou and Qingdao, spans 2,477 kilometers and takes 29 hours. The Guangzhou-departing line will stop in Jinan, the capital city of eastern Shandong province, before heading directly to the destination of Qingdao. It will also pass through as many as five high-speed rail lines linking the country's transportation hubs such as Beijing, Shanghai and Central China's capital city Wuhan and Hefei. (source: [China Daily](#))

Xinhua Insight: China's general aviation market not yet soaring

China's general aviation industry has rosy prospects but its development remains slow. Such a contrast between dreams and reality has resulted in mixed feelings at the China International General Aviation Convention, which closed on Sunday in Xi'an, capital of northwest China's Shaanxi province. At the convention, Xia Xinghua, vice minister of the Civil Aviation Administration of China, said that the country currently has 178 companies, 399 airports or vertipads and 1,610 jets registered for general aviation. And the number of jets is expected to hit 10,000 by 2020, which means an annual compound growth of 22 percent. Zhu Shicai, an official with the state air traffic control commission, said that the government was expecting general aviation to be the next driving force for the Chinese economy after the auto industry. Since the State Council, China's cabinet, and the military authority jointly decided in November 2010 to gradually open up the country's low-altitude airspace to general aviation, various pilot projects have been launched in China, including in Xi'an and Chongqing. (source: [Xinhua net](#))

Road to clean air starts with new energy vehicles

Beijing will actively promote the use of new energy and clean-energy vehicles to tackle air pollution. According to the capital's five-year Clear Air Action Plan



unveiled in September, authorities aim to cut annual gasoline and diesel fuel consumption in 2017 by 5 percent of 2012 levels. At the end of 2017, the number of new energy and clean-energy vehicles will reach 200,000, the Beijing government said. The city has 5.35 million registered vehicles and, according to the Beijing environmental protection bureau, these account for 22.2 percent of PM2.5. It said 58 percent of nitrogen oxide and 40 percent of volatile organic compounds come from vehicle emissions. To better implement the policy, the government should first choose new energy vehicles for public transportation, according to the capital's 2013-2017 plan. Starting this year, authorities will work out a plan to encourage more people to buy and use new energy vehicles. The plan will be implemented in 2014. In the municipal infrastructure area, more new energy vehicles and clean-energy vehicles will be developed as buses, taxis, postal vehicles, and sanitation trucks, according to the plan. At the end of 2017, the proportion of new energy vehicles and clean-energy vehicles will reach 65 percent of the total number of buses in Beijing. This could see gasoline and diesel fuel consumption reduced by 40 percent on 2012 levels among buses. (source: [China Daily](#))

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Socioeconomic sciences & the humanities, archaeology & paleontology

Hukou system lags behind urbanization

The management of China's hukou, or household registration, system has failed to keep pace with urbanization, a research institution has warned. The warning was based on a recent survey finding that although more than 50 percent of China's population live in cities, only about a quarter of city dwellers have obtained hukou documents in cities, the institution said. The report on the urbanization and movement of China's labor force, released by the China Data Center of Tsinghua University, showed that 27.7 percent of respondents said they had hukou in cities as of 2010, a rise of some 7.7 percentage points over the previous two decades. The report polled some 12,500 adult respondents nationwide and the results were made public over the weekend in Beijing. However, official statistics show that the urbanization rate rose from 22 percent in 1990 to some 52.6 percent in 2012, the report said. "We were very surprised to find out that reform of the hukou system lagged so far behind the actual mobility of the population," said Li Qiang, director of the center, who participated in the research. (source: [China Daily](#))

806 million people in pension system

Some 806.6 million people have joined the pension system on the Chinese mainland as of September, according to the statistics released by the Ministry of Human Resources and Social Security on Friday. The first nine months saw



about 2.32 trillion yuan (\$381 billion) contributed to social insurance funds, a year-on-year rise of 13.7 percent, Yin Chengji, spokesman for the Ministry of Human Resources and Social Security, told a news conference in Beijing. Meanwhile, spending on social insurance reached 1.92 trillion yuan, a year-on-year growth of 20.6 percent, he said. (source: [China Daily](#))

Chief justice urges labor camp reform

Zhou Qiang, president of the Supreme People's Court, called on courts at all levels to shorten the process of hearing and concluding minor criminal cases, and promote community-based rectification in order to match up with China's reform of its "re-education-through-labor" camp system. (source: [China Daily](#))

China Focus: China enhances protection of ancient settlements

China announced on Thursday that efforts had been stepped up to preserve ancient villages and more was on the way, as old-style settlements face a crisis of decline, decay and even extinction. The country is home to 12,000 old-style or traditional villages, 80 percent of which were established before the Qing Dynasty (1644-1911), and quarter before the Yuan Dynasty (1271-1368), said Zhao Hui, director of the rural township construction department under the Ministry of Housing and Urban-Rural Development. A nation-wide survey, launched in May last year, was the first of its kind, Zhao Hui told a press conference in Beijing. The survey had identified more than 2,000 key cultural preservation sites and over 3,000 provincial-level intangible cultural heritage sites. Villages typical of the nation's ethnic minority groups were included in the survey. "The census was a big check up of the nation's traditional and cultural health," said Zhao, warning that rapid urbanization and industrialization, during the past 30 years or so, challenges a culture thousands of years old. Relics of China's agricultural past are threatened, and will vanish with traditional villages. The term "traditional" covers three categories of village: those dominated ancient buildings, those with unique elements that reflect the essence of Chinese culture, and those rich in intangible cultural heritage. An expert committee has been established for the protection and development of these old-style villages, and the government is compiling an atlas with introductions to every designated village, including photos and text. So far, the atlas comprises 1,561 of them. (source: [Xinhua net](#))

Ancient tombs unearthed in north China

Nearly 300 pieces of cultural relics have been unearthed from a cluster of ancient tombs in north China's Hebei Province, archaeologists said on Friday. The tombs, located in Beidazhao Qiandong village of Nanhe County, 150 km south of the provincial capital of Shijiazhuang, are believed to be from the middle and late West Han Dynasty (206 B.C.- 24 A.D.) and middle Tang Dynasty (618-907), said archaeologist Li Lianshen. More than 4,000 square meters of land have been combed since the excavation started in May, and



archaeologists have discovered 73 tombs altogether, Li said. Zhang Xiaozheng, head of the excavation, said the relics are mostly pottery, chinaware and bronze ware that were used in daily life. Zhang said the tombs are likely to belong to ordinary families judging from their shape and structure. About 10 more tombs are yet to be excavated, he added. (source: [Global Times](#))

China, Italy to shoot documentary on Xi'an, Rome

Chinese and Italian TV companies plan to shoot a documentary "Dialogue between Xi'an and Rome", telling the history of cultural exchanges between the two ancient empires. The documentary will be shot in 2014 by Xi'an Qujiang Film and TV Company, Radio Televisione Italiana (RAI) and Shaanxi Radio and TV Station, according to Guan Zhaoyi, board chairman of Xi'an Qujiang Film and TV Company. The film will feature civilization and culture along the Silk Road, which linked China and Europe more than 2,000 years ago, Guan told Xinhua on Wednesday. The documentary is expected to be broadcast simultaneously in 2015 on Shaanxi Satellite TV and RAI, he said. Xi'an, capital of northwest China's Shaanxi Province and known in ancient times as Chang'an, is the starting point of the ancient Silk Road. It was the capital of China's Western Han Dynasty (202 BC- 9 AD). (source: [Global Times](#))

Early Cretaceous Bird With Unique "Two-tail" Plumage Found in China

A bird that lived 125 million years ago in what is today Western Liaoning of Northeast China had a unique "two-tail" plumage, according to a study published October 7 in the early edition of *the Proceedings of the National Academy of Sciences*. The new specimens indicate a previously unrecognized degree of diversity in the tail plumage configurations of Mesozoic birds and demonstrate that tail evolution did not follow a simple path from the "frond-like" arrangement seen in *Archaeopteryx* and some derived nonavian theropods to the "fan-like" arrangement seen in modern birds. First described more than a decade ago, the Early Cretaceous bird *Jeholornis* was previously only known to have a distally restricted ornamental frond of tail feathers. Researchers from the Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences (IVPP), Linyi University and Tianyu Museum of Nature in Shandong, China, and Museo Argentino de Ciencias Naturales in Buenos Aires, Argentina, analyzed the bird *Jeholornis* and observed a previously unrecognized fan-shaped tract of feathers situated dorsal to the proximal caudal vertebrae. (source: [CAS](#))

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Space



China trains Bolivia's first satellite operators

Bolivia's first satellite operators graduated from China's Shenzhou Institute on Monday, and they will now look forward to managing Bolivia's first telecommunication satellite, which will be launched by China in December. Some 78 Bolivian professionals have concluded their courses in China, with the training forming part of the Tupac Katari satellite project (TKSAT-1) between China and the Andean country. According to the China Great Wall Industry Corporation (CGWIC), the company in charge of the training, the graduates have studied the theories and practise of satellite management, so as to help improve telecommunication, education and health services after they return Bolivia. (source: [Global Times](#))

One World, One Universe, One Dream - TMT in China

The TMT (Thirty Meters Telescope) Collaborative Board of Directors met in Beijing, China this week. The Board meets quarterly and this marks the first time the Board has gathered in China. Guests included several Chinese officials, including Xu Guanhua, the former Minister of Science and Technology, Cao Guoying, the Vice Director General for the Department of Basic Research and Xu Ruiming, Director General of the Bureau of Frontier Sciences and Education, Chinese Academy of Sciences. TMT is an international partnership among institutions in the U.S., Canada, China, India and Japan. Marking the international flavor of the project, leadership meetings have rotated among the partner countries. In October 2012 the Board met for the first time in Tokyo, Japan, followed by a January 2013 meeting in New Dehli. India. In an important milestone in July 2013, the Board met in Hawaii and signed the TMT Master Agreement. The Master Agreement establishes a formal agreement amongst the international parties defining the project goals, establishing a governance structure and defining member party rights, obligations and benefits. "TMT is a unique project. Never before in history has something of this magnitude been developed collaboratively by people from these nations," said Henry Yang, Chair of the TMT Collaborative Board. As TMT approaches the beginning of construction in 2014, Board meetings have expanded with many guests from the partners attending and contributing to the development of the international partnership agreements. During the latest meeting in Beijing, over 50 Board members and guests were in attendance, the largest meeting to date. (source: [CAS](#))

Nation puts geospatial data system on the map

China has established a national emergency geospatial data system to provide first-responders with detailed maps within two hours after a disaster, a senior official said. At the Chengdu Forum on United Nations Global Geospatial Information Management in the capital of Sichuan province on Tuesday, government leaders and prominent geologists and land surveyors discussed how any effective disaster response starts with a map. "In fighting with disasters such as earthquakes and mudslides, providing timely mapping support for



affected regions is crucial," said Xu Deming, director of the National Administration of Surveying, Mapping and Geoinformation. (source: [China Daily](#))

China to launch quantum experiment satellite in 2016

China has initiated to launch a satellite for quantum information and technology experiments in 2016, a leading quantum physicist said here Thursday. Prof. Pan Jianwei said, "We hope to establish a quantum communication network from Beijing to Vienna." "Such a plan is impossible without international collaborations," Pan said at a press conference on the sidelines of the annual session of the Chinese People's Political Consultative Conference, China's top political advisory body. The field of quantum communication, the science of transmitting quantum states from one place to another, has caught global attention in recent years owing to the discovery of quantum cryptography, which is described as a way of creating "unbreakable" messages. A member of the Chinese Academy of Sciences, Prof. Pan of the University of Science and Technology of China led a frontier research team to conduct a 30-40 km quantum communication test on the Great Wall in 2005. (source: [China Daily](#))

Beidou to have 60% share of home market

China plans to have its satellite navigation system, Beidou, have a 60 percent share of the domestic market and 80 percent of all markets related to social and economic growth by 2020. The central government released on Thursday medium- and long-term plans for the "sat nav" industry, all approved by the State Council. Plans include analysis on the status of the industry, development goals of the Beidou system and major goals to be accomplished by 2020. The goal is to increase the navigation-related industry to 400 billion yuan (\$65.4 billion), popularize Beidou in both the national economy and the consumer market, and enhance the international effectiveness of the system. To achieve the goals, the plan lists major projects for the coming years, including creating a system of more than 30 satellites by 2020, creating core technologies in navigation chip production, and spreading the use of Beidou products in key fields such as power, communications, banking and public security. The Ministry of Transport stipulated this year that all bus tour charters and vehicles carrying hazardous materials should install the Beidou system. But the system was not sold well in the mass market. (source: [China.org](#))

Chile, China sign agreement on astronomical research

China and Chile agreed on an annual fund of \$3 million for joint astronomical research on Friday. The agreement was signed between Chile's National Commission for Scientific and Technological Research (Conicyt) and the Chinese Academy of Sciences (CAS). "This is one of the most important milestones of Sino-Chilean cooperation in science and technology ever obtained," said President of Conicyt Mateo Budinich. The fund, to be



implemented from 2014, will be used for joint training and research programs, according to a Conicyt statement. The move is a true innovation, Budinich said, expressing the hope that the bilateral fund could serve as an example for scientific partnership. The two countries also agreed to establish the Chile-China Joint Center for Astronomy in Santiago, the first CAS scientific institution outside China. Bai Chunli, president of the CAS, said the center is a "milestone that marks a major step forward in the collaboration in astronomy, and demonstrates our strong commitment to strengthen and expand existing collaboration" between both countries. "Astronomy is a starting point. Our collaboration can be extended to other fields. I am confident that our cooperation in astronomy will have a positive impact on our bilateral partnership in science and technology," Bai said. (source: [Global Times](#))

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People & Higher Education

Job fair for overseas Chinese scholars

A job fair will be held in Beijing on Nov 16 for Chinese postgraduates who studied abroad, Bai Zhangde, director of the Chinese Service Center for Scholarly Exchange said in a news conference on Friday. Aiming to lure more Chinese talent to come back after studying overseas, the fair had been held twice as a platform for communication between returned talent and domestic enterprises, Bai said. Compared with the two previous fairs, Bai said, this time the fair, to be held at Empark Grand Hotel on Nov 16, will gather more prominent enterprises and institutes in China. The number is estimated to exceed 100, including China Construction Bank, Lenovo China, BAIC Motor Corp and Capital University of Economics and Business. "These enterprises and institutes will offer more than 800 posts, covering sectors such as finance, engineering, information technology, the law, culture and education," he added. Bai also noted that staff members of the center had sent information to more than 7,000 Chinese doctoral students who would like to return or had already returned, inviting them to participate in the fair. (source: [China Daily](#))

Chinese continue to study overseas

Chinese people going overseas to study will surpass 450,000 by the year end, up from 2012's total of 399,600, an official in international education exchange has estimated. "Diversified demands from China's overseas study market have provided opportunities for educational institutes from various countries, and many foreign governments regard enrolling Chinese students as a key measure for educational internationalization," said Zong Wa, deputy secretary-general of the China Education Association for International Exchange on Monday. Zong was commenting ahead of the China Education Expo 2013, scheduled from November 2 to 3. It will see more than 600 universities and educational



institutes from 42 countries and regions take part, according to the association. The event is part of the China Annual Conference for International Education 2013, which is sponsored by the association. (source: [China Daily](#))

WANG Yifang Awarded Panofsky Prize in Experimental Particle Physics

The American Physical Society (APS) has awarded the 2014 W. K. H. Panofsky Prize in Experimental Particle Physics to WANG Yifang, director of the Institute of High Energy Physics and Kam-Biu Luk, Lawrence Berkeley National Laboratory. WANG is the first Chinese scientist to win this award. The award recognizes WANG Yifang and Kam-Biu Luk "for their leadership of the Daya Bay experiment, which produced the first definitive measurement of θ_{13} angle of the neutrino mixing matrix." (source: [CAS](#))

International students in China hit record high

A total of 328,330 international students from 200 countries and regions studied in China in 2012, up 12.2 percent than 2011, according to the Ministry of Education on Thursday 24 October. The Chinese government provided scholarships to 28,700 international students, who studied in China's 690 universities and research institutions as well as other educational organizations, said Zhang Xiuqin, director of the ministry's international division. "We plan to attract 500,000 overseas students by 2020, which will make the largest receiver of international students in Asia," said Zhang. Zhang said that the Chinese government will further improve the scholarship mechanism and encourage local governments, educational institutions and social organizations to offer more funds for international students. (source: [Global Times](#))

Universities from Chinese mainland climb up world rankings

Times Higher Education published its new world universities rankings Wednesday. Universities from the Chinese mainland climbed up with two edging into top 50. Peking University creeps up one place to 45th, while Tsinghua University rises two places to joint 50th. "Both universities improve their positions and edge closer to the best in the world. Both act as national flagship institutions, attracting global talent and inspiring others," said Phil Baty, editor of Times Higher Education Rankings. Four other universities entered the list of top 300, namely the Fudan University, the University of Science and Technology of China, the Renmin University and the Nanjing University. The Shanghai Jiao Tong University, the Wuhan University of Technology, the Zhejiang University and the Sun Yat-sen University followed, bringing the total number of universities from the Chinese mainland on the top 400 list to 10. The University of Hong Kong fell eight places to 43rd, but the Hong Kong University of Science and Technology and the Chinese University of Hong Kong reached 57th and 109th. (source: [China Daily](#))



China, Australia launch joint graduate school

China's Southeast University and Australia's Monash University have officially opened a joint graduate school in the eastern city of Suzhou, Jiangsu Province. The Southeast University-Monash University Joint Graduate School is the first sino-foreign graduate facility approved by the Chinese Ministry of Education. The school will be complemented by a joint research institute to conduct multi-disciplinary projects on nanotechnology, bioinformatics, water, energy and new materials. A 60,000-square-meter building that houses the school with cutting-edge facilities to support education and future research activities was also officially opened on Thursday 24 October. (source: [Global Times](#))

Shenzhen University targets expertise

Shenzhen University is spending millions of yuan to recruit professors and lecturers this year. According to a notice issued last month, some positions, such as professorships, will come with annual salaries ranging from 500,000 yuan (\$82,000) to 1.2 million yuan per year. The school will also provide support for scientific research, laboratory construction and the research team. The openings are in the College of Optoelectronic Engineering, the College of Life Sciences, the College of Architecture and Urban Planning and the College of Mathematics and Computing Science. Concerns have been raised that there are not enough teachers regarding the growing number of students. Li Qingquan, the president of Shenzhen University, said that the university is now gradually increasing the number of teachers by 100 every year. For professors, associate professors and lecturers, Shenzhen University will mainly bring in the people who have doctoral or post-doctoral research experience in renowned overseas universities. (source: [China Daily](#))

Shanghai boosts education services

Shanghai, arguably China's most energetic commercial hub, is sparing no effort in becoming an international education exchange center and one of Asia's most popular study destinations, city officials say. "We want to build an international education city full of diverse culture attractions," said Yang Weiren, who works in international exchange and cooperation for the Shanghai Education Commission. "This will not only improve Chinese students' understanding of the world and increase their ability to communicate with the world, but it will also help attract more international students here," he said. Yang revealed that the city is working on becoming a cosmopolitan education city through seeking out international cooperation and establishing a series of high-level international schools, ranging from high schools to vocational schools and universities. The latest step is the first China-US high school, co-established by Shanghai Qibao High and Dwight School in the United States. (source: [China Daily](#))

Fudan University to promote Confucius Institute



Fudan University in Shanghai is exploring more innovative ways to promote the development of Confucius Institutes in overseas countries. "We hope that each institute will have its own distinguishing features," said Li Lin, a teacher from Fudan University, who is in charge of the university's Confucius Institutes project. Since 2005, Fudan University, under the guidance of Hanban, the Confucius Institutes headquarters, has joined in the establishment of Confucius Institutes by cooperating with overseas universities. So far, the university has helped establish seven Confucius Institutes abroad. (source: [China Daily](#))

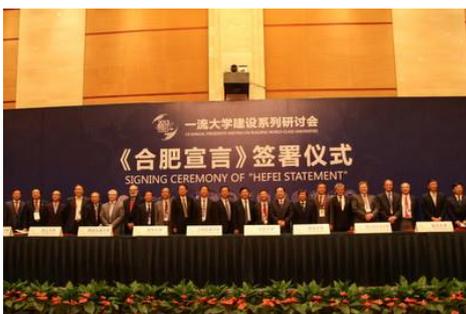


NSFC President Meets with the Delegation of University Presidents from Hong Kong

On September 29th, NSFC President Yang Wei met with the delegation of university presidents from Hong Kong. Prof. Yang introduced to the guests the overall situation of NSFC and its exchange and cooperation with HK partners in recent years. The two sides exchanged views on the application and implementation of national S&T projects by researchers in universities from Hong Kong, cooperation between mainland and Hong Kong researchers, and how to further strengthen the cooperation and communication between NSFC and Hong Kong partners. (source: [NSFC](#))

More Chinese students return to find work after studying abroad

Facing a stagnant economic situation overseas, more Chinese students are returning home after studying overseas, a trend that looks likely to continue in coming years, a report released this week says. The report on the situation in 2013, conducted by the Chinese international education service provider EIC, said 22 percent of returned overseas Chinese students thought they would have better prospects finding a good job in their "home country". The survey interviewed more than 9,100 respondents by questionnaire over five months. More than 5,800 had been overseas students. "China's high-speed economic growth in past years has motivated overseas students to come back and to look for job opportunities," said Liu Yuan, general manager of EIC's Shanghai branch. "At the same time, it demonstrates the difficulty overseas Chinese students have in finding jobs in other countries." (source: [China Daily](#))



C9 Join with Groups in Building Research Universities

The Consortium of China 9 Research Universities signed a statement with the world's three strongest groups of research universities on Thursday in Hefei, the capital of Anhui province, aiming at working together to promote the foundational value of higher education. C9 signed the Hefei Statement with the Association of American Universities, the Group of Eight Australia and the League of European Research Universities. Similar to the Ivy League in the United States, C9 is an organization formed by nine universities in 2009, which includes the well-known Peking, Tsinghua and Fudan Universities and the



University of Science and Technology of China, representing the top level of higher education on China's mainland. (source: [CAS](#))

Xi wants nurturing of ethnic minority talent

Chinese President Xi Jinping has called for the education of talented individuals to contribute to the country's unity and development. Xi was responding to 1,800 students from 50 ethnic groups in 24 provinces, autonomous regions and municipalities on Oct. 1 after he received a letter from a middle school affiliated to the Minzu University of China, a leading institution for ethnic minority students. Established in 1913, the school celebrated its 100th anniversary on Sunday. As the only school in China open to all the ethnic minority groups, the school has nurtured talent which has made great contributions to people's liberation, national development, ethnic solidarity and people's benefits, Xi said. He hoped the school would continue its glorious tradition of cultivating contributors and successors of the cause of socialism with Chinese characteristics. He also encouraged students to grow up to become the backbone of the country. Premier Li Keqiang also made remarks, calling for the school to continue its tradition of patriotism, unity and contribution and educate more talent for the cause of national unity and China's modernization drive. (source: [Xinhua net](#))

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Research infrastructures

Institute to focus on urbanization studies

An institute for advanced studies in urban development was established in the East China Normal University in Shanghai over the weekend. As an academic platform, the institute aims to build itself as an influential thinktank in the field of China's urbanization studies. "The rapid development of urbanization also produces inevitable problems, such as the marginalized population, unreasonable city layout, mismatched population and resources," said the former deputy mayor of Shanghai Hu Yanzhao, who now is the president of the institute. Based in Shanghai, the institute will carry out related studies in the Yangtze River Delta area and the whole country. It is expected to become an important research base for urban development studies, he said. (source: [China Daily](#))

China's Jiaolong submersible set for Indian Ocean

Jiaolong, China's first manned deep-sea submersible, is scheduled for a voyage in the Indian Ocean at the end of next year, the oceanic authorities said Friday. The sub will carry out scientific research focusing on polymetallic sulfides in the



southwest Indian Ocean, with its carrier, *Xiangyanghong 09*, set to start sailing in November or December, according to the State Oceanic Administration. *Jiaolong* will also conduct research on cobalt-rich crusts in the northwest Pacific Ocean in the middle of next year, the administration said. (source: [China Daily](#))

Unmanned submersible mission hailed as successful

China's maritime authority has hailed the mission of an unmanned underwater vehicle as a success after it completed a fortnight voyage that included deep-water and night dives in the Pacific Ocean. The State Oceanic Administration said on Wednesday that *Qianlong-1*, or underwater *dragon-1*, completed seven diving missions from Oct 6 to 12, with a record depth of 5,162 meters. Xu Huixi, leader of the *Qianlong-1* project, said the vehicle had made several technological breakthroughs during the mission and it functioned normally. Xu said the success of the mission showed the benefits of the vehicle in carrying out offshore seabed tasks. *Qianlong-1* is on a trial run and marks the first time a Chinese autonomous underwater vehicle has been used for a scientific expedition. (source: [China Daily](#))

China's unmanned submersible makes night dives

China's unmanned autonomous underwater vehicle "Qianlong-1" has successfully operated for a combined 18.5 hours during two night dives, the State Oceanic Administration said on Monday. Developed by Chinese scientists, the vehicle is a robot that can travel to a depth of 6,000 meters underwater and is tasked to explore the sea bed and collect hydrological data. The two dives, the first nighttime missions for the robot, were made on Oct. 8 and 9 and lasted 8.5 and 10 hours respectively, according to the statement. The administration said "Qianlong-1" had operated smoothly in the eastern Pacific Ocean in three dives that lasted nearly 30 hours in total since the first dive on Oct. 6. The vehicle is on a trial run and marks the first time a Chinese autonomous underwater vehicle has been used for a scientific expedition. Liu Fanglan, chief scientist with China's 29th oceanic scientific expedition, said that the successful operations so far showed that the vehicle had basically met the goals for trial applications and future improvements will ensure a larger role for it in the country's oceanic scientific expeditions. (source: [Xinhua net](#))

China's autonomous submersible makes maiden dive

An unmanned autonomous underwater vehicle developed by Chinese scientists has successfully completed in a dive to 5,080 meters in the open sea, the State Oceanic Administration said on Friday. The unmanned vehicle "Qianlong-1" is a robot that can travel to a depth of 6,000 meters. The vehicle, tasked to explore the sea bed and collect hydrological data, is about 4.6 meters long, 1,500 kg in weight and 0.8 meters in diameter. The vehicle, on board of the Chinese research vessel "Haiyang-6," left Honolulu, Hawaii, on Sept. 28 for the eastern Pacific Ocean and with the first dive on Oct. 6. It operated underwater for about



eight hours and successfully resurfaced. This task is a trial run for the vehicle and the first time an Chinese autonomous underwater vehicle has been used for a scientific expedition. The vehicle is the latest achievement in China's oceanic technological endeavors, following its a manned submersible and a remote-control underwater vehicle. The manned submersible "Jiaolong" set a record in June 2012 by reaching 7,062 meters in the Pacific Ocean's Mariana Trench. (source: [Global Times](#))

"Flora of China" translated into English

A renowned book about China's flora has been translated into English and was published in September after a 25-year international effort, said the Institute of Botany of the Chinese Academy of Sciences (CAS). Named "Flora of China," the book is the largest of its kind. The Chinese edition of the book is composed of 80 volumes and 125 books, the last of which was published in 2004. China and the [United States](#) signed a cooperation agreement in 1988 to compile an English edition of the book, and compilation began in 1989. The work was sponsored by the National Natural Science Foundation of China and the Ministry of Science and Technology. (source: [Xinhua net](#))

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International S&T relations

Chinese researchers get security clearance for NASA conference

At least three of the six Chinese researchers who are originally banned from a forthcoming NASA conference on distant planets said Wednesday they have got security clearance from the space agency and are now welcome to attend the meeting. "We are very pleased to inform you that your review for clearance has been completed," according to a copy of the invitation letter sent to Xie Jiwei, one of the initially banned researchers from China's Nanjing University. "You have been accepted for attendance at the Second Kepler Science Conference ... We hope you will be able to join us," said the letter, signed by Dawn Gelino and Mark Messersmith, co-chairs for the conference. Xie told Xinhua he has decided to fly to the meeting, which is scheduled for November at NASA's Ames Research Center in California. "This event will set a benchmark on how to deal with these kinds of incidents in the future," Xie said. "We now have a better reference solution." Another Chinese researcher, Zhao Guo, a PhD student of the Georgia State University, said he has already booked a flight for the meeting. "The ban didn't affect me much," Guo said, "However, I'm still very thankful for those American astronomers who have a strong sense of justice." A third Chinese researcher, who refused to be named, also confirmed that he was cleared for attendance and that he will present his findings about planets outside our solar system at the Kepler conference. The initial decision to block the six sparked a boycott of the meeting from several



prominent American scientists, including Professor Debra Fischer of Yale University, and Professor Geoff Marcy of the University of California, Berkeley. The ban was the result of a controversial law passed in 2011 that prohibits government funds from being used to host Chinese nationals at NASA facilities. However, in response to the boycott, Congressman Frank Wolf asserted early this month that it places no restrictions on activities involving Chinese individuals "unless those nationals are acting as official representatives of the Chinese government." (source: [Global Times](#))

The Eleventh A-HORCs Meeting in China

The Eleventh Meeting of Heads of Research Councils in Asia (A-HORCs) was held in Chengdu on September 16th. Prof. Yang Wei, President of the National Science Foundation of China (NSFC), Prof. Yuichiro Anzai, President of Japan Society for the Promotion of Science (JSPS) and Prof. Gul Woo Lee, Director General of the National Research Foundation of Korea (NRF) headed their respective delegations to attend the Meeting. As the host, President Yang Wei chaired the meeting. With the theme of Talent Training, the three parties presented on talent funding system of their respective countries and agencies, practice of promoting international mobility of talents, vision for funding the future young and discussed on subjects such as how to strengthen trilateral scientific cooperation. Prof. Yang brought out concrete suggestions on beefing up trilateral cooperation, which received positive responses from both Japan and Korea. The three sides unanimously agreed that a forum for young scientists from the three countries would be held concurrently with Northeastern Symposium in 2014. They also discussed and reached consensus about the collaborative area of 2014 Northeastern Symposium and A3 Foresight Program of 2015 as well as the theme, time and place for the 12th A-HORCs. (source: [NSFC](#))

China, UNESCO to strengthen cooperation

Chinese Vice Premier Liu Yandong on Sunday called on China and the United Nations Educational, Scientific and Cultural Organization (UNESCO) to strengthen cooperation in more fields. Liu made the remarks while meeting with Irina Bokova, Director-General of UNESCO. Liu said the Chinese government attaches great importance to the cooperation with UNESCO, and China is willing to work with UNESCO to broaden cooperation areas and deepen cooperation content through various means. China is willing to strengthen cultural and people-to-people exchanges with other countries and make contribution to the sustainable development of human beings, Liu said. Bokova spoke highly of the relation between China and UNESCO, and she calls for more cooperation in education, science and culture. Liu and Bokova also attended the opening ceremony of UNESCO Creative Cities Beijing Summit. (source: [Xinhua net](#))



EU Ambassador to China Markus Ederer

Tour of China 2013 brings EU and China closer

EU Ambassador to China Markus Ederer made an introductory speech on the concept and route of the Tour of China 2013 in Beijing, capital of China, on October 17, 2013. The Tour of China is a collaborative project of the Delegation of the European Union to China and the EU Member States and Countries associated to the EU Framework Programme working on Research & Innovation cooperation with China. Each Tour event will provide a unique set of lectures and presentations promoting the different research and innovation programmes, policies, and funding instruments offered by the EU and the participating European countries. The Tour also aims to engage with local authorities by providing a clearer picture of what sets Europe apart as a world-class destination for research. [Photo by Huang Shuo / chinadaily.com.cn] (source: [China Daily](#))

UK, China Fund Collaborative Synthetic Biology Studies

The UK and China will jointly provide nearly \$400,000 to fund several new research activities involving scientists from both countries working collaboratively on [synthetic biology projects](#). The UK Biotechnology and Biological Research Council said yesterday that it, along with the Engineering and Physical Sciences Research Council, will provide a total of £124,000 (\$197,000) to fund the UK-based scientists involved in the projects. The Chinese Academy of Sciences (CAS) will match that funding level to support the Chinese investigators. "Co-funded initiatives such as this scheme will see British and Chinese scientists learning from each other's expertise and benefiting from the globalization of excellent science," BBSRC Chief Executive Douglas Kell said in a statement. "The idea of this program is to put the best minds together. Together our scientists and these from the UK can advance this field more efficiently," added Cao Jinghua, deputy director-general of the CAS Bureau of International Cooperation. The funding will support joint projects that involve a wide range of possible applications for synthetic biology. (source: [CAS](#))

China, Canada's Ontario hold tech transfers forum

A forum jointly held by the province of Ontario, Canada, and China on Wednesday opened in the city of Toronto, with a goal to improve cooperation in science and technology between the Canadian region and the east Asian country. With more than 200 Chinese and Canadian delegates entrepreneurs, researchers in attendance, the Ontario-China Technology Transfer and R&D Collaboration Forum is just one of the eight partnership developments and 15 incoming science & technology delegation meetings planned under the Ontario-China Research and Innovation MOU, signed by then premier Dalton McGuinty during his visit to China in 2008. Organizers say that the forum, which featured workshops, speeches and other networking events aimed at providing business people from Chinese and Canadian companies with opportunities to share their experiences and explore future collaborations. (source: [People](#))



Innovation Challenges Discussed at TWAS Annual Meeting

Science academies must play a greater role in pursuing innovative solutions for problems in developing countries, according to members of The World Academy of Sciences (TWAS), who are holding their annual meeting in Buenos Aires this week (1-4 October). The first day of activities included an opening ceremony, led by Bai Chunli, president of TWAS, and Lino Barañao, Argentina's minister of science, technology and productive innovation. Several prizes were awarded to distinguished researchers. In a meeting with the press, Bai said the organisation needs to attract young scientists and enhance collaboration between countries to improve training opportunities. The researcher, who also leads the Chinese Academy of Sciences, told SciDev.Net that TWAS faces two additional challenges: including greater numbers of female researchers — who currently represent only ten per cent of its membership — and increasing the number of countries from 21 to more than 100 in the coming years. (source: [CAS](#))

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