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EURAXESS LINKS CHINA

Dear Colleagues,

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

This newsletter looks at some of the latest research & innovation developments and funding opportunities in and between Europe and China.

This month's EU Insight takes a closer look at the "Innovation Union", one of the so-called 'flagship initiatives' taken by the European Commission to boost growth and jobs creation in Europe in the years to come.

Under **EURAXESS Links Activities** we of course come back to the EURAXESS Science Slam China Finals which very successfully took place on 26 September in Beijing. The venue was packed with around 180 people supporting the 6 finalists and finally voting for Dr YU Yang from Wuhan University to become the EURAXESS China Science Slammer of the year. The Science Slam was also organized in the other countries where EURAXESS Links is present, except for Japan where the slam finals are going to take place on 16 October.

This edition features a number of **News & Developments** about European research, including the ERA (European Research Area) report about the progress made in the establishment of a true 'single-market' for research in Europe or the launch by the European Commission of a new innovation indicator.

New funding calls can be found under **Grants & Fellowships** while this month's **Jobs** section lists includes, among others, several openings at the famous



Beijing Genomics Institute (BGI) and provides links to even more job announcements on the NatureJobs and EURAXESS Jobs portals.

Coming to **Events**, we announce the imminent kick-off of the 2013 edition of the European research & innovation so-called 'Tour of China'. In a similar fashion to last year, representatives of the EU delegation, member states' embassies and European R&I organisations will tour various cities across China to introduce to local audiences the diverse European research landscape and the many opportunities for international collaborations, in particular with China. We hope to meet you and your colleagues at these events, as EURAXESS will be present on most of the tour.

We would also like to draw your attention on the CHAIN-REDS FP7 Project workshop on "e-Infrastructures for e-Sciences" to be held on 22 October 2013 in Beijing for which the registration period is now open.

I wish you a pleasant reading of this newsletter and of the Chinese **Press Review** that concludes it.

With best regards,

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.

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Jacques de Soyres

[EURAXESS Links China](#) Country Representative



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1 EU Insight

The Innovation Union

In his final 'State of the Union' speech European Commission President Jose Manuel Barroso touches on the key priorities for the European Union. For the work of the Parliament and the Commission, jobs and growth remain issues of highest importance. Barroso further emphasizes the significance of finding "innovative ways to create jobs" and the longer-term challenge of boosting Europe's innovation capacity.

What is innovation?

Innovation refers to the creation of new or significantly improved products, marketing, processes and organization that add value to markets, governments and society.

"Innovation is the ability of individuals, companies and entire nations to continuously create their desired future"

John Kao, "Innovation Nation" (2007)

One of the seven flagship initiatives in the Europe2020 strategy to promote smart, sustainable and inclusive growth is the Innovation Union. It places innovation as overarching policy objective and as the best means of successfully tackling major societal challenges, such as climate change, energy and resource scarcity or health and ageing.

Figures 1 and 2 show the innovation performance of selected countries compared with EU27 and within the EU, respectively. Innovation is the main driver of economic growth in the EU. By 2050 Europe's share of world GDP is likely to be half of today's 29%.

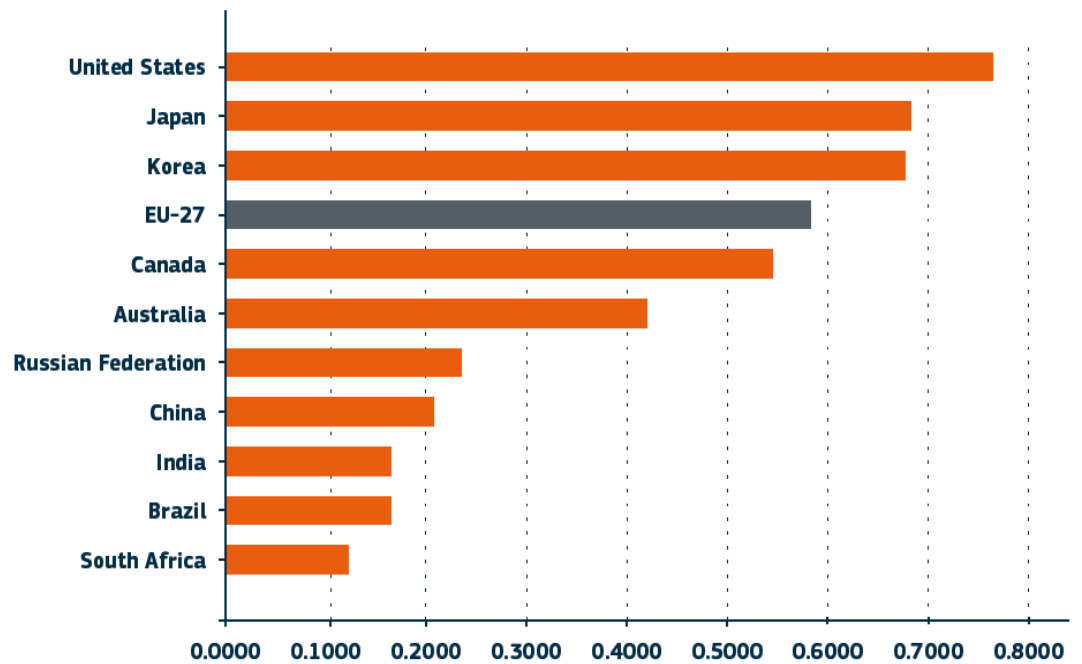


Figure 1: EU27 performance in innovation compared to other key innovating countries [1]

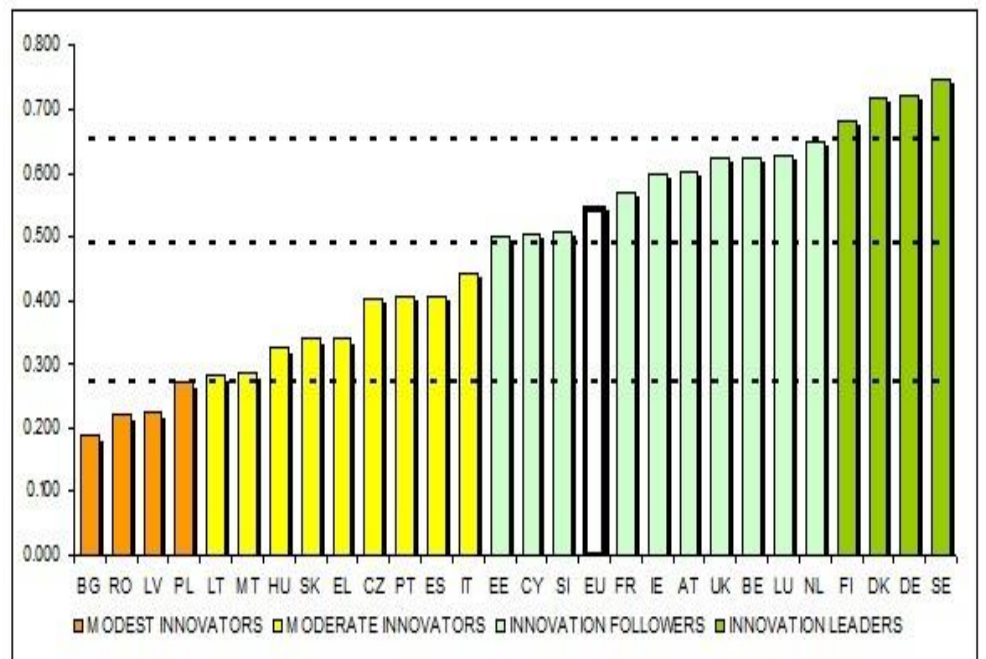


Figure 2: Innovation Performance within EU member states in 2012 [2]

Almost all EU countries have become better at fostering innovation, but progress is slowing. The EU not only has to close the innovation gap among its member states, it also has to keep up with the international leaders, namely the US, Japan or South Korea. On top of that, emerging economies such as China, Brazil, and India have been catching up over the past 5 years. The scoreboard



makes clear that the EU will have to increase efforts to stimulate and speed up innovation if it is to boost – let alone maintain – its competitiveness.

Ingredients for innovation

The EU's innovation leaders are Sweden, Denmark, Germany and Finland. The 4 countries tend to have:

above-average R&D expenditure, especially in the business sector

higher investment in skills and finance

strong national research and innovation systems with a key role for partnerships between public and private sectors

better results in turning technological knowledge into products and services.

The scoreboard is part of the EU's strategy to create an Innovation Union

where entrepreneurs find the support they need to turn their ideas into commercial products and services.

The main goals set by the Innovation Union are:

make Europe into a **world-class science performer**;

remove obstacles to innovation – like expensive patenting, market fragmentation, slow standard-setting and skills shortages – which currently prevent ideas getting quickly to market; and

revolutionise the way public and private sectors work together, notably through **Innovation Partnerships** between the European institutions, national and regional authorities and business.

The first partnership – launched last year – aims to encourage new products and services that can help active and healthy ageing.

Sources and further information

[1] [Innovation Union- A Pocket Guide on a Europe2020 Initiative \(2012\)](#)

[2] [Innovation Union Scoreboard 2011: The Innovation Union's Performance](#)

[3] [European Commission "Innovation Union"](#)

Impact of the Innovation Union for researchers and engineers

- Attractive careers
- Training of a high-standard
- Improved cross-border mobility
- More open access to research results
- Enhanced public-private collaboration
- Access to EU research and innovation programs



2 EURAXESS Links Activities



EURAXESS Science Slam China 2013 Finals – Big success!

The 1st EURAXESS Science Slam China took place at the Bridge Café on 26 Sept. in the evening in an atmosphere warmed up by a huge crowd of about 180 great supporter. All 6 finalists bravely stepped into the arena and battled fiercely but at the end of the evening there could be only one winner....Congratulations to Yu Yang from Wuhan University!

We wish to express our warmest thanks to all the candidates, not forgetting those who didn't make it through the first round and to the finals this time. We would also like to thank the audience who was fantastic and everyone (in particular our friends from Think In China and Understanding Science as well as the amazing staff of the Bridge Café) for making this first slam such a success.

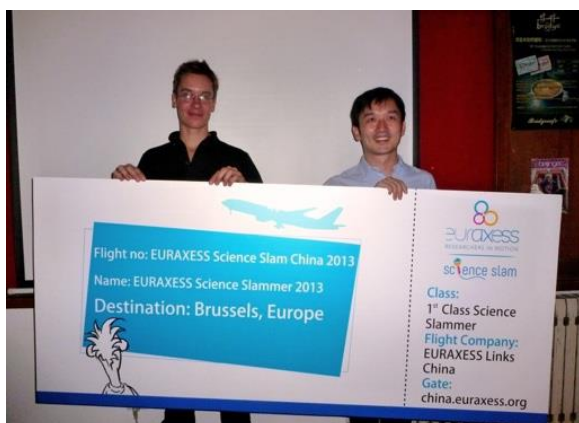


The first pictures can be seen on the [slam's webpage](#) and the film of the event will be released later in October.

Stay tuned with EURAXESS and see you hopefully next year for an even greater 2nd edition of the EURAXESS Science Slam China!



The winner of the EURAXESS Science Slam China 2013, Dr YU Yang, and the EURAXESS Links China Country Representative, Jacques de Soyres:



EURAXESS Science Slams were also successfully held in [ASEAN](#), [Brazil](#), [India](#) and [North America](#) (with Japan still to come on 16 October), visit these countries' EURAXESS Links websites to find out more about how these events went.



3 News & Developments

3.1 EU & Multilateral Cooperation

First Euro-Asian experts conference on immune biomarkers for personalized medicine in oncology held in Shanghai

Immunocan was proud to present the first Euro-Asian experts conference on immune biomarkers for personalized medicine in oncology on Friday 6th and Saturday 7th of September 2013.

The 1st Euro-Asian Expert Conference on Immune Biomarkers for Personalized Medicine in Oncology – 2nd Forum for Translational Medicine has combined the united effort of all partner organizations to continue positioning multidisciplinary and personalized medicine as the way forward to best improve the treatment of cancer patients.

Learn more about IMMUNOCAN [here](#).

Final Meeting of Sino-European aeronautics project COLTS held in Shenyang

The final meeting of the Sino-European cooperation project Casting of Large Titanium Structures (COLTS), hosted by IMR, was held in Shenyang 16-17 September 2013. Representatives of sponsoring agencies, project coordinators and researchers from 14 institutions of both sides attended the meeting.

Project coordinators from both sides then each gave a 15 minutes overview of the deliverables and achievements of COLTS. SUN Jian, department head from Chinese Aeronautical Establishment (CAE), reflected on the management aspect of the project, summarizing experiences and lessons learned.

COLTS consists of 10 work packages undertaken by EADS, Airbus, ESA, University of Birmingham, Calcom ESI, Universidad Politécnica de Cataluña, BIAM, BAMTRI, IMR, Tsinghua University and Huazhong University of Science and Technology. At the final meeting the work package leaders reviewed the technical progress made during the past three years.

The government representatives and sponsors on both sides spoke highly of the accomplishment of COLTS and praised the team spirit of the partners and its efficient management and coordination.

Further details in source: [CAS](#)



Group photo of participants. (Image by IMR)



EU-China Innovation Cooperation Dialogue in progress

A joint EU-China expert meeting took place in Brussels on 24-25 June 2013 with a view to prepare the first meeting of the High-Level Innovation Cooperation scheduled to take place in parallel to the next EU-China meeting, most likely in November 2013.

The meeting, co-organised by the Chinese Ministry of Science and Technology and DG RTD was attended by colleagues from several relevant EC services. It marked an important step in the shaping up of the High-Level Innovation Cooperation Dialogue to be held back to back with the EU-China Summit on 20 November 2013. The meeting was a success and resulted in a series of recommendations to promote EU-China cooperation in the area of Innovation Policy and Strategy, in particular on key issues such as mutual access to funding, Intellectual Property Right (IPR) and standardization.

Source: [International Research Update](#)



ERC Delegation visited China, heading to Australia and New Zealand

From 2 to 7 September, an ERC delegation set out to China for awareness-raising purposes, where they met representatives and scientists at leading universities and research institutions in Beijing, Shanghai, Hangzhou, Wuhan, Xian and Harbin. They also had meetings with for instance the National Natural Science Foundation of China (NSFC) in Beijing. During this intensive programme, ERC Secretary General Prof. Donald Dingwell was accompanied by ERC Scientific Council member sinologist Prof. Alain Peyraube, as well as Chinese ERC grantee Prof. Ming Cao, EU Delegation and EURAXESS Links China representatives..



ERC seminar at Huazhong University, China

© Thierry Proost

This 'ERC goes Global' visit was followed by the Annual Meeting of the New Champions, also known as the 'Summer Davos', organised by the World Economic Forum in Dalian, China, from 11 to 13 September.

This annual gathering especially focuses on the younger generation and creates an opportunity for exchange between leaders from industry, academia and key decision-makers, as well as the media and civil society.

This year, the ERC took part with more speakers and in more sessions than ever before. It was represented by ERC President Prof. Helga Nowotny and two ERC Scientific Council members, Nobel laureate Sir Tim Hunt and Prof. Alain



Peyraube, as well as six pioneering ERC grantees. Under this edition's theme, "Meeting the Innovation Imperative", they showed the latest discoveries in their fields, and brought the scientific perspective into the discussions.

Following these visits to China, the ERC is currently in Australia and New Zealand until 11 October. This part of the 'ERC goes Global' campaign will take the ERC delegation to several top universities and various institutes in Wellington, Auckland, Canberra, Sydney, Brisbane, Adelaide, Melbourne, Hobart and Perth.

Read more in the [ERC Newsletter](#)



ERC's latest Advanced Grants call's results: €660 million in EU funding to top researchers

Exploring the limits of life on Mars, developing a virus that can target cancer cells, or using photonics to restore vision in patients with cataracts, as well as societal challenges such as ageing populations in developing countries or inequality in capitalist societies are just some of the issues being tackled by the 284 scientists who are set to receive €660 million in the latest funding round from the European Research Council (ERC).

In its sixth and last Advanced Grant competition under the EU's Seventh Research Framework Programme (FP7), the ERC will provide individual grants of up to €3.5 million. The funding, some of the most prestigious in the world for frontier science, will enable well-established senior researchers to pursue their 'blue-sky' research. The next Advanced Grants call will be the first under Horizon 2020, the new EU research and innovation programme.

European Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn said: *"The ERC funds researchers who are at the top of their game, and we need this talent in Europe. Their creativity and hard work creates knowledge that is valuable in itself, but that often also has a positive impact on our society and economy. That is why the ERC budget will receive a major funding boost under Horizon 2020."*

In this call, the successful candidates are of 27 different nationalities, with British, German, French, Dutch and Italian researchers being the most numerous. Grantees are based in some 150 institutions across 18 different European Research Area (ERA) countries.

For this particular competition, just over 2,400 applications were submitted to the ERC, which is a slight increase (4.5%) from last year. The success rate lies at nearly 12%. Thanks to the ERC grants, the selected scientists in this call will be able to build their own research teams, engaging an estimated 1,200 postdocs and PhD students as ERC team members.

Advanced Grants are awarded to well-established top researchers of any nationality or age that are scientifically independent, with a recent research track-record holding a profile which identifies them as leaders in their respective field(s). The ERC also funds young, early-career top researchers



(ERC Starting Grants) and already independent excellent scientists (ERC Consolidator Grants).

Visit the [ERC website](#) for more information.

European Research Area (ERA) progress report: 'single market' for research closer, not yet a reality

The European Commission has presented on 23 September a first comprehensive analysis of the state of the 'single market' for research, or the European Research Area (ERA). The [report](#) provides a factual base for assessing progress in target areas like open and fair recruitment of researchers or better circulation of scientific knowledge. It shows that some progress has been made, but that even the best performing research institutions still have issues to address ahead of the 2014 deadline for ERA, as set by the EU leaders. There is also a significant gap between the best and the worst performers ([MEMO/13/807](#)).

European Commissioner for Research, Innovation and Science Máire Geoghegan-Quinn said: *"This report shows that there is still a lot of work to do. Investment in R&D is vital, but we need fully functional research and innovation systems to use that money best. We now need all EU Member States and all those involved in research and research funding to make a major push for ERA."*

The European Research Area is about enabling researchers, research institutions and businesses to better move, compete and co-operate across borders. This would strengthen EU Member States' research systems, increase their competitiveness and allow them to work together more effectively to tackle major challenges.

Even if the report underlines that progress has been achieved in all target areas, it highlights a number of areas of continued concern, including:

- Public investment in R&D as a percentage of overall government spending is declining in some Member States;
- National research programmes still operate according to different rules, for example on reporting, which makes transnational research cooperation difficult;
- The development and implementation of infrastructures, such as very intense lasers or extremely large telescopes, is hampered by financial, management and political barriers and often national rules or high entry costs prevent researchers from other Member States from accessing them;
- Open, transparent and merit-based recruitment practices are still not broadly implemented for all research positions; for example, more than half of vacancies are not yet advertised at the European level via the EURAXESS jobs portal; this inhibits researcher mobility and may mean that the best person is not always appointed to the job;
- Gender inequality means female researchers' talent is still being wasted, and this is the area of ERA where progress has been weakest;





- Relatively few researchers in Europe are employed in industry, and these researchers are not sufficiently prepared for the labour market.

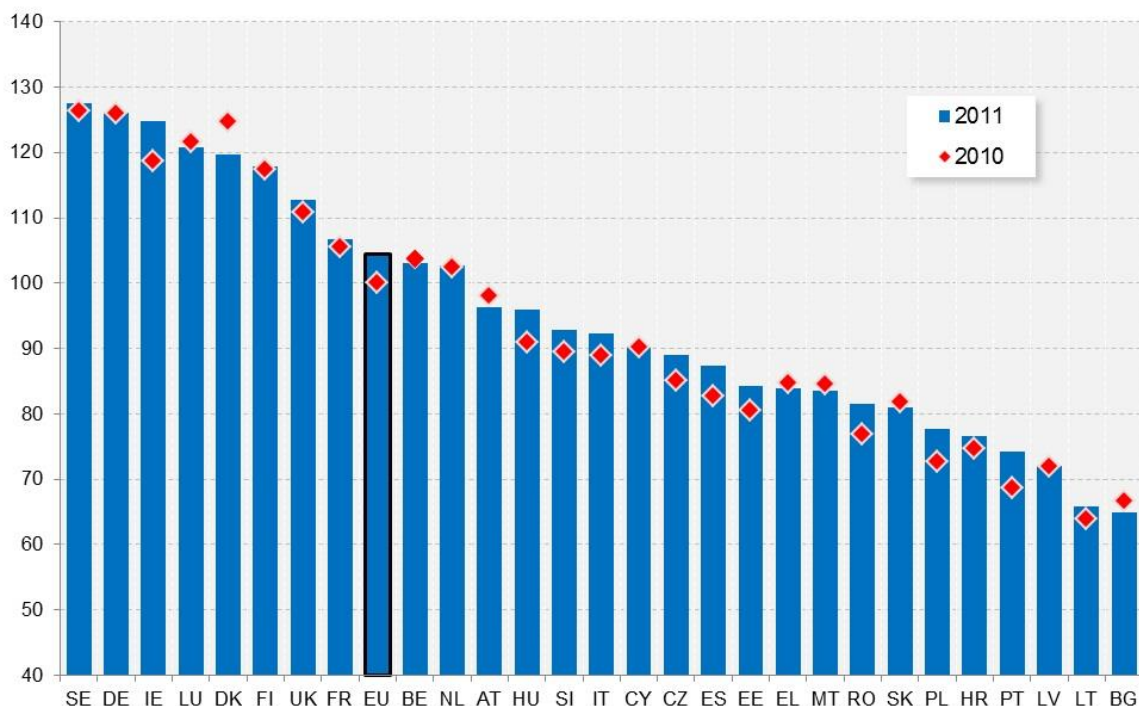
Further information about the report and about ERA can be found in source: [European Commission website](#)

The Commission also conducted a survey of research funding and research performing organisations in all Member States and countries associated to the EU research programme, and this information was complemented by the MORE 2 study and Researchers Report 2013 published separately on the [EURAXESS portal](#).

Commission launches new innovation indicator

Sweden, Germany, Ireland and Luxembourg are the EU Member States getting the most out of innovation, according to a new indicator proposed by the European Commission. The "Indicator of Innovation Output" measures the extent to which ideas from innovative sectors are able to reach the market, providing better jobs and making Europe more competitive. The indicator was developed at the request of EU leaders to benchmark national innovation policies, and shows that significant differences remain between EU countries.

The proposed new indicator shows a wide range of innovation output across EU Member States (EU average set to 100 in 2010):



The EU as a whole performs well in an international comparison, even though it remains behind some of the most innovative economies worldwide ([MEMO/13/782](#)).

Read more by clicking [here](#).



25 years of bright minds: EU rewards young scientists

The best young scientific minds in Europe met in Prague on 24 September for the 25th annual EU Contest for Young Scientists (EUCYS). 126 promising young scientists aged 14 to 21 presented their projects in the hope of impressing an international jury. The winners shared a total of €54.500 in prize money, as well as other prizes such as science trips (MEMO/13/812).

The three first prizes of €7000 each were awarded to Perttu Pölonen from Finland for "Music A' Clock", Ciara Judge, Emer Hickey and Sophie Healy-Thow from Ireland for "A statistical investigation of the effects of diazotroph bacteria on plant germination" and Frederick Turner from the United Kingdom for "Genetics at home: Building a PCR machine and other equipment for setting up a home genetics lab". The three second prizes and three third prizes were given to projects from Austria, Germany, Switzerland, Hungary, Germany and Belarus.

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

Promoting the development and implementation of eco-innovation in Europe



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One of the fundamental challenges in modern society is the need to decouple environmental impact from economic growth. This is essential not just for fast-growing countries such as China or India, but also for the United States and Europe. Already a leading force in environmental technologies during the last decade, the European Union aims to further increase its competitiveness by promoting research and development on eco-innovation and thereby creating a strategy for sustainable economic growth.

With this objective in mind, the EU-funded ECO-INNOVERA project started in October 2010. Supported by 24 partners in 19 different countries, its main goals are to support eco-innovation in research and development, thereby boosting the implementation of eco-innovation in European industries and SMEs, which should lead to higher competitiveness on a global scale.

ECO-INNOVERA's first transnational call, at the end of September 2011, reached out to public and private research organisations, non-profit organisations and industries with an emphasis on SMEs. Support from 13 funding partners provided up to €15 million for the six projects that were eventually selected for funding. With a focus on increased resource efficiency as a driving force for successful eco-innovation, it addressed topics such as recycling, re-usage of waste, sustainable industrial processes and paradigm change. ECO-INNOVERA is a good example of the leverage effect of European research programmes through ERA-NETs.

In response to the EU's Eco-Innovation Action Plan (EcoAP), ECO-INNOVERA aims to draw proposals from research and development projects that are focusing on recycling, sustainable processes and products and system



innovation. A further €10 million will be made available to boost green growth and steer Europe towards a prosperous and sustainable future.

Learn more about the ECO-INNOVERA project on the [European Commission website](#).



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EU Brain project gives young scientists a flying start

Through collaborative work, an EU-funded research team aims to uncover how neural circuits are genetically encoded and how neuronal computation controls behaviour. It has also set out to give some of Europe's brightest young scientists the chance to cooperate with colleagues in other countries and push forward our understanding of the brain.

Just how do billions of interconnected cells in the brain interpret and regulate all our bodily functions, in addition to storing all our memories and experiences? Understanding this remains one of medical science's greatest challenges, but also one of its most tantalising, potentially opening the door to cures for diseases such as Alzheimer's, dementia and Parkinson's.

One thing is clear: achieving this dream will require painstaking examinations of the numerous mechanisms and processes that go on at the genetic and biochemical levels of the brain.

Such research is time-consuming and costly, and achieving a full understanding of the brain remains a long way away. A sensible use of resources would therefore be to train up young scientists in innovative forward-looking projects who will be able to apply the know-how gained in the project to other studies and programmes.

This is precisely the objective of the EU-funded FLIACT ('Systems neuroscience of *Drosophila*: from genes to circuits to behaviour') project, which is training researchers starting out in their careers in cutting-edge concepts and techniques. The FLIACT programme's ultimate objective is to create a unique pan-European training network that interconnects eight academic partners and three SMEs specialised in complementary fields of research, from molecular and behavioural neurogenetics to electrophysiology, bioengineering and applied biomedicine.

Learn more about the FLIACT project on the [European Commission website](#).

Europe keeps world leading position in solar panel installations

Despite a crisis-driven decline in investment, global production of photovoltaic (PV) cells grew by 10% in 2012. Europe remains leader in newly installed capacities with over half (51.7%) of the new worldwide capacity of 30 GW. This brought the total solar PV systems capacity in Europe to 69 GW, enough to meet 2.4% of Europe's electricity demand or to power all Italian households.

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



Within the EU, Germany remains on top with an additional 7.6 GW. Italy can now cover over 7% of its electricity demand thanks to newly installed 3.5 GW.

The increasing role of PV energy systems in the transition to a low carbon energy economy is evident: Production of PV cells and modules has gone from 46 MW in 1990 to 38.5 GW in 2012.

These are some of the highlights of the 12th edition of the *PV Status Report* released today on the occasion of the opening of the 28th European PV Solar Energy Conference, taking place in Paris from 30 September to 4 October.

Source: [JRC](#)

Science for Energy – New JRC thematic report

The third in the European Commission's Joint Research Centre's (JRC) series of thematic reports has been published. Entitled '[Science for Energy](#)', this new publication gives an insight into the research carried out by the JRC in the areas of energy efficiency, security of energy supply, renewable energy, nuclear energy, energy technology innovation and hydrogen technologies.

While global energy consumption is set to rise by 50% by 2050, the EU has set ambitious targets for 2020: reducing energy consumption by 20%, increasing the use of renewable energy to 20% of total energy consumption and cutting carbon emissions by 20%. In this context, the importance of energy research is obvious. This report showcases the JRC's scientific support underpinning EU policies in this area.

The report outlines JRC's work and achievements in the different areas of energy research, including for instance biofuels, smart grids, ecodesign, photovoltaics and fuel cells. Within each area, the detailed policy context is cited, showing the JRC's added value as independent and science-based advisor to the EU policy-making process.

As part of the thematic report series, 'Science for Energy' emphasises the importance of energy research to meet the energy challenge, and highlights the JRC role as the Commission's in-house science service.

Source: [JRC](#)

3.2 EU Member States*, China & Bilateral Cooperation

* Including countries associated with the 7th Framework Programme.



Germany - Science Forum held at the German Embassy with Prof. Shi YiGong



Prof. Shi YiGong during his speech (© Deutsche Botschaft Peking)

The Science Forum focusing this time on Life Sciences took place on 29 August at the German Embassy in Beijing. Professor Shi YiGong, dean of the School of Life Sciences at Tsinghua University, reknown scientist in the field of structural biology, member of the American Academy of Arts and Sciences as well as of the United States National Academy of Sciences, gave a talk about the historical significance of science and research in China. Prof. Shi made it into the headlines a couple of years ago when he made the decision to quit his position at a famous American university and to decline an offer of the Howard Hughes Medical Institute in order to come back to his Alma Mater, Tsinghua University.

His speech provoked a lively debate about China's potential for innovation and about the role played by culture and tradition in the realization of this potential.

About 70 people from science, economy and policy attended the forum which aims to offer a platform for exchanges and discussions linked to R&I and S&T. Previous editions revolved around topics such as bio-diversity, innovation, space research or LED.

Source: [Vertretung der Bundesrepublik Deutschland in der VRC](#)

UK and China forge strategic partnership on offshore wind energy

On 26 September, the UK and China signed a Memorandum of Understanding on offshore wind power, the first of its kind that China has signed with another country.

The enhanced cooperation is built upon the bilateral Energy Dialogue that was initiated in 2010 wherein both countries identified offshore wind as a priority area for UK-China collaboration. The second UK-China Energy Dialogue took place on the 27th of September.

Existing bilateral cooperation on climate change and energy includes extensive joint work supporting the development of carbon markets in China; working in support of China's low carbon pilot cities on policy development, standards and capacity building; joint energy research in cutting edge renewable energy technologies; and UK supported work to help China and other developing countries to adapt to the impacts of climate change.

The MoU is expected to remove the technological and market barriers for both countries to accelerate wind power development and unleash significant investment potential for industries. Both countries have agreed to cooperate more closely in their policy development, technology transfer, personnel training, and to increase access to the markets in the UK, China, and other countries.



China currently is the world's third largest offshore wind power installer after the UK and Denmark, but its target to increase offshore wind capacity to 30 gigawatt by 2020 will make it the largest global offshore wind market.

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

UK - UK supports China and Indonesia to develop Carbon Capture and Storage

The UK's Secretary of State for Energy and Climate Change Edward Davey announced on 25 September £35 million funding to support Carbon Capture and Storage (CCS) development in Asia with a focus on China and Indonesia.

This funding is being used to support the Carbon Capture and Storage Fund (CCSF) under the Clean Energy Financing Partnership Facility (CEFPF) administered by the Asian Development Bank (ADB). The ADB is working with the UK's Department of Energy & Climate Change, the Global CCS Institute and partners within the Chinese Government to identify opportunities to accelerate the development and deployment of CCS.

The funding will also support the GreenGen project in Tianjin City of China, which will receive over \$10m from the ADB CCSF. The project was launched in 2005 by China's five largest power companies, two largest coal companies and one investment group, aiming to complete a 400 megawatt power plant before 2020 with over 80% of the CO₂ separated and stored. To increase our collaboration, and in partnership with the ADB, we will be setting up three CCS centres, two of which will be in China and one in Indonesia.

The UK Government has also been working with Chinese partners in Guangdong to create a CCS roadmap for the province.

A number of leading British research institutes and universities- the UK CCS Research Centre, the University of Edinburgh, the Imperial College of London- have established active research collaboration with similarly eminent Universities and academies here in China.

Further details in source: [GOV.UK](http://gov.uk)



4 Grants & Fellowships

4.1 Call announcements for international researchers

China - National Natural Science Foundation International Young Scientists Fellowship extension

The 2013 2nd round of applications for extension of the NSFC International Young Scientist Fellowships is now open. Recipients of this fellowship can apply until **25 October** for a maximum one-year extension.

Further details about the procedure to follow are available on the [NSFC website](#).

China – NSFC-ICTP Grants

According to the cooperation agreement signed by the NSFC and the International Center for Theoretical Physics (ICTP), both institutions choose each year young Chinese scientists to take part in ICTP activities and thematic events, including 2 months study visits to the center.

The selection period for the 2014 visits is now open. Application deadline is **10 October, 2013**. The list of grants offered this year and the applications forms can be accessed from the [NSFC website](#).

China – NSFC-ISF Joint Academic Research Programme

The National Natural Science Foundation of China (NSFC) and the Israel Science Foundation (ISF) are glad to announce the 2nd submission cycle of the joint research program.

The aim of the program is to encourage and support research cooperation between Israeli and Chinese scientists.

The program is funded by the Chinese and Israeli governments through the two foundations; the NSFC and the ISF. Each foundation will finance the principal investigator of its country according to its rules. The grant budget will be equivalent to up to USD 100,000 per year, for three years, for each of the principle investigators (Chinese and Israeli). About 15 proposals will be funded in the framework of this submission cycle.

Eligibility for submission and proposal funding will be determined according to the rules of each of the two foundations.

An identical, joint proposal, in English, will be submitted by an Israeli researcher to the ISF and in Chinese by the Chinese researcher to the NSFC.



The 2nd round of submissions (2013/14) will include the following research topics: **Life Science: Bioinformatics, Microbiology, Cell and Developmental biology, Neurobiology, Immunology, Biochemistry and Molecular biology.**

Medicine: Neurodegenerative diseases; Cancer; Cardiovascular diseases; Infection and Immunity; Materia medica and Pharmacology.

The projects will be supported for a period of three years (1 October 2014 until 30 September 2017).

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](#).

EU - ESO Fellowship Programme

The European Organisation for **Astronomical Research** in the Southern Hemisphere awards several postdoctoral fellowships each year in both Germany and Chile. The goal of these fellowships is to offer young outstanding scientists opportunities and facilities to enhance their research programmes in close contact with the activities and staff at one of the world's foremost observatories.

The application deadline is every year on **October 15**. To learn more and apply on-line, please visit the [ESO website](#).

EU – CERN Non-Member State Postdoc Fellowship Programme

The Non-Member State Fellowship Programme in **Theoretical Physics** awards two postdoctoral Fellowships per year. Fellowships are intended for young University level postgraduates who want to work in a research group. Fellowships are granted for one year initially and are normally extended for a second year.

Fellows salaries are calculated individually - salaries are competitive and tax-free.

All applications for this type of fellowship are considered by the Associates and Fellows Committee which meets once a year in May. However, preliminary discussions with candidates may start early in 2014. Successful applicants will be offered appointments which normally begin in autumn 2014.

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

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

EU - CERN Technician Training Experience (TTE)

Have you recently obtained a **technical diploma**? Are you interested in working for one or two years in an international environment at the forefront of



technology? Then you may be interested in CERN's Technician Training Experience (TTE). This is a pilot project for technicians who are looking to get a great professional experience for their future career or before their advanced studies.

This scheme welcomes applications from talented technicians who will have the opportunity to work in a range of fields at the cutting edge of technology: electronics, vacuum, cooling and ventilation, electricity, radioprotection, survey engineering, building works are but a few of the examples of the many domains in which successful applicants will learn and contribute their knowledge.

Applicants must (?) be nationals from CERN-member countries.

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

France - ANR-NSFC Joint Call in ICT

In the framework of its general 2014 call, the French National Research Agency (ANR) and the National Natural Science Foundation of China (NSFC) launched a new call for proposals in the field of **ICT**. The French and Chinese applicants are invited to prepare joint projects of 3 to 4 years duration and submit them in parallel to their respective funding agencies according to the calendar below:

1- Pre-proposal (5 pages maximum) :

- Submission deadline to ANR: **23 October 2013**
- Submission deadline to NSFC : **15 October 2013**

2- Full proposals (30 pages) submission (for the pre-selected projects only, to be announced in February 2014) :

- ANR deadline: mid-April 2014
- NSFC deadline: *not specified yet*

The joint selection decision by ANR and NSFC is expected by end of June 2014 for the projects start beginning of 2015.

Further details available in Chinese on the [NSFC website](#) and in French on the [French Embassy to China website](#).

France - EIFFEL PhD scholarships

The Eiffel excellence scholarship programme supports French centres of higher education to attract elite overseas students on master's, engineering and PhD courses.

The Eiffel excellence program offers two components:

- A Master component which helps fund a master level degree course from 12 to 36 months



- A Ph.D. component to fund mobility programs for 10 months under a thesis joint supervision or co-tutorship (preferably for the second doctoral year).

Applicants for the PhD courses must be no more than 35 years old.

The three major areas of study covered by the Eiffel program are:

- **Engineering sciences at Master level, sciences in a broader sense for PhD level (engineering sciences, exact sciences: mathematics, physics, chemistry and life sciences, nano and bio-technology, earth and environmental sciences, information and communication sciences and technology),**
- **Economics and management,**
- **Law and political science.**

Eiffel PhD scholarship-holders receive a monthly allowance of 1,400€: In addition various expenses are covered directly:

- An international return travel (only one return trip will be covered for law and political science students who would undertake several stays in France),
- Health insurance
- Cultural activities.

The calendar session 2014/2015 is as follows:

- Opening of application period: September 25th, 2013
- Deadline for receipt of applications by Campus France : **January 8th, 2014**
- Announcement of results: week of March 17th, 2014

The Netherlands - Royal Netherlands Academy of Arts and Sciences: Visiting Professors Program (VPP)

The Visiting Professors Programme enables outstanding foreign researchers to spend time working in the Netherlands. The programme acts as an incentive for Dutch science and scholarship.

All research fields are eligible.

KNAW members, researchers at KNAW institutes, members of KNAW's De Jonge Akademie (Young Academy) and KNAW Academy Professors can submit nominations for a Visiting Professorship.

The deadline for submission is **1 November 2013**. The nomination form can be found by visiting the [KNAW website](#).



Slovakia – Scholarships for university students, PhD. Students, university teachers, researchers and artists from abroad

The National Scholarship Programme of the Slovak Republic (NSP) is funded by the Ministry of Education, Science, Research and Sport of the Slovak Republic. This programme **supports study/research/teaching/artistic mobility** of foreign students, PhD students, university teachers, researchers and artists at universities and research organisations in Slovakia.

For PhD students and researchers the scholarship is offered for a period of 1 to 12 months.

The scholarship shall cover scholarship holders' living costs (accommodation, board, etc.) during their study/research/teaching/artistic stay at higher education institutions, research or non-governmental organisations in Slovakia.

The following monthly scholarships are offered:

- a) university student (2nd level of higher education): 350 €
- b) PhD student: 580 €
- c) university teacher/researcher/artist without PhD degree (or its equivalent) and less than 4 years of experience as a university teacher/researcher/artist: 580 €
- d) university teacher/researcher/artist:
 - with PhD degree (or its equivalent) and less than 10 years of experience as a university teacher/researcher/artist: 850 €
 - with PhD degree (or its equivalent) and more than 10 years of experience as a university teacher/researcher/artist: 1 000 €

Deadline for application is **31 October 2013** for a start of the stay in Slovakia on 1 February the earliest.

Further details available on the [National Scholarship Programme of the Slovak Republic website](#).

Turkey - The Scientific and Technological Research Council of Turkey (TUBITAK) Research Fellowship Program for Foreign Citizens

The Scientific and Technological Research Council of Turkey (TÜBİTAK) grants fellowships for international highly qualified PhD students and young post-doctoral researchers to pursue their research in Turkey in the fields of **Natural Sciences, Engineering and Technological Sciences, Medical Sciences, Agricultural Sciences, Social Sciences and Humanities**.

The program aims to promote Turkey's scientific and technological collaboration with countries of the prospective researchers. Preference will be given to candidates who demonstrate the potential to contribute significantly to Turkey's goal of international cooperation in scientific and technological development.



Next deadline for application is **11 October 2013**. Learn more about this scheme on the [TUBITAK website](#).

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

The scheme enables **engineering researchers** at UK Higher Education institutions to travel to a Chinese or Indian institution, or China/India-based researchers to spend time at a UK institution (a one-way exchange). Exchanges where a researcher at a UK-based Institution travels to a Chinese/Indian institution and a China/India based researcher at that institution also travels to the same UK institution are also allowed (a two-way exchange).

The main objectives are to promote collaboration between high quality engineering researchers in the UK and China/India, to allow researchers to gain international experience and access world-class expertise and to strengthen relations between leading partners in these countries and support the expansion of international Networks of Excellence in engineering research.

Awards support visits of 3-12 months and should be part of longer-term efforts to build UK-China/India partnerships.

Awards provide funding at a flat rate of £2000 per month of exchange visit (up to £24,000 for 12 months total exchange visit/s), regardless of the direction of travel or whether the exchange is one- or two-way.

Exchanges between 3-6 months may be either pre-existing collaborations or new collaborations. Exchanges longer than 6 months building on pre-existing collaborations must initiate new technical dimensions, as continuation studies will not be supported.

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

This scheme aims to set up partnership links between UK and overseas laboratories, to promote the exchange of scientists, particularly early career scientists and to promote access to facilities in the field of **biosciences**.

Funds can only be used for travel, subsistence and other activities, such as workshops or exchanges. They are not to fund salary costs, consumables, items of equipment or other research costs, nor to link ongoing single collaborative projects

Typically up to £30k over a period of up to 4-years for partnerships with one or more Chinese life science laboratories.

Research groups should try and access other sources of funding in addition to the Partnering Award.



Chinese partners may wish to explore mutual funding from agencies in China which have signed formal agreements with BBSRC:

- The Chinese National Centre for Biotechnology Development (CNCBD)
- The Chinese Academy of Sciences (CAS)
- The National Natural Science Foundation of China (NSFC)

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

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

UK – BBSRC Taiwan-UK International Partnering Awards

This scheme aims to set up partnership links between UK and overseas laboratories, to promote the exchange of scientists, particularly early career scientists, to promote access to facilities and to enhance **food security, bioenergy and industrial biotechnology and basic bioscience underpinning health research** in the UK and Taiwan.

These awards will be co-funded by BBSRC and the National Science Council of Taiwan (NSC).

Funds can only be used for travel, subsistence and other activities, such as workshops or exchanges. They are not to fund salary costs, consumables, items of equipment or other research costs, nor to link ongoing single collaborative projects

Partnerships of up to 2 years are co-supported. In each partnering award, BBSRC will fund up to £25k over two years for the UK partners and NSC will fund up to NTD 1,200,000 for the Taiwan partners. Please read the guidelines for eligible costs

Successful awards should aim to run between April 2014 and March 2016. The application deadline is **27 November 2013**.

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

UK - BA/Leverhulme Small Research Grants

Grants are available to support primary research in **the humanities and social sciences**. The first recourse for funding should be to your own institution (where applicable). Applications will not be considered for less than £500. The maximum grant is £10,000 over two years. Applications for collaborative or individual projects are equally welcome under this scheme. Applications from international groups of scholars are welcome, provided there is a UK-based scholar as lead applicant.

Funds are available to facilitate initial project planning and development; to support the direct costs of research; and to enable the advancement of research through workshops or conferences, or visits by or to partner scholars. Applicants may seek support for any combination of eligible activity and cost up



to the overall limit of £10,000. The Academy will assess applications equally on their merits, with no preference as to mode of enquiry.

Grants are not intended to support interchange between UK and overseas scholars where there is no planned programme of activity to meet a clearly specified research objective.

Call for proposals is now open for 2014 awards. Deadline is on **16 October 2013**.

Further details on the [British Academy for the humanities and social sciences website](#).

UK – Chevening Scholarships

Chevening Scholarships are the UK government's global scholarship programme, funded by the [Foreign and Commonwealth Office \(FCO\)](#) and partner organisations. The programme makes awards to outstanding scholars with leadership potential from around the world to study postgraduate courses at universities in the UK.

The Chevening programme was established in 1983 and has developed into a prestigious international scheme. Chevening Scholars come from 118 countries worldwide (excluding the USA and the EU), and this year the Scholarships will support more than 600 individuals. There are over 42,000 Chevening alumni around the world who together comprise an influential and highly regarded global network.

The programme provides full or part funding for full-time courses at postgraduate level, normally a one-year Master's degree, in any subject and at any UK university.

Applications are accepted from a wide range of subject areas, however, applications in the following fields are particularly welcome :

- **Foreign and security policy/Defence**
- **Public policy**
- **Jurisdiction/Law**
- **Economics/Finance**
- **Trade/Investment**
- **Science and technology**
- **Environment and sustainable development**
- **Climate change and Energy**
- **Media**
- **Social development (Health/Education policy/Human rights/Judicial reforms)**



Applications for 2014-2015 Chevening Scholarships in China will open on 1 September 2013 and close on **15 December 2013**.

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

UNESCO - Michel Batisse Award for Biosphere Reserve Management

This prize is awarded every two years in memory of Dr Michel Batisse for excellence in the management of the biosphere reserves in line with the recommendations of the Seville Strategy.

Case studies must be submitted each year during which a MAB-ICC session is due to be convened. All case studies must be submitted through, and have the endorsement of, the respective [MAB National Committees](#), and/or the UNESCO National Commissions of the country concerned.

Award amount: US\$ 6,000 plus international travel and allowances in Paris, France, to present the award winning case study to the MAB-ICC session.

Language for submission of case studies: English and French

Each country can submit one case study on biosphere reserve management, not exceeding a maximum of 30 pages (20 pages recommended) and appropriately illustrated with scientific data, figures and tables, photographs and other supporting documentation.

Submission deadline: **31 October 2013**.

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

4.2 Calls still open

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

Netherlands - Innovational Research Incentives Scheme Vidi

The deadline for submitting applications in the 2013 round is **3 October 2013**.

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

Norway – UTFORSK programme

Application deadline is **9 October, 2013**. Read more on the [Norwegian Centre for International Cooperation in Education \(SIU\) website](#).



Switzerland – SNSF International Exploratory Workshops

Although the call for this funding instrument is always open, there are three cut-off dates per year when the evaluation process begins. The next cut-off date is **9 October, 2013**.

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

Poland – Homing Plus programme

The deadline for the last edition of the Homing Plus programme is **15 October 2013**. More details available on the [Foundation for Polish Science \(FNP\) website](#).

Norway – Norwegian Programme for Research Cooperation with China (CHINOR) funds allocation within KLIMAFORSK Climate programme

Within the general thematic framework of this call for proposals, **the Norwegian Programme for Research Cooperation with China (CHINOR) will allocate up to NOK 15 million to Researcher Projects involving the participation of Chinese partners.**

Deadline for application is **16 October, 2013**. Read more on the [CHINOR webpage](#).

EU - Max Weber Fellowships

The annual deadline for applications for these Max Weber Fellowships is **25 October** but after 25 October 2013 and up to 25 March 2014, applications for self-funded fellowships are considered on a first-come first-served basis for as long as there is capacity in the Max Weber Programme.

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

EU - Jean Monnet Postdoctoral Fellowships

The annual deadline for applications is **25 October**.

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

UK - Royal Society International Exchanges Scheme China and Taiwan Cost Shares

NSC Taiwan cost share is now open for application and close **23 October 2013**.

2013 NSFC China cost share is now open and closes **30 October 2013**.

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



> **NEW:** Applicants on the Chinese side can now find information about the call on the [NSFC website](#).

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**, FNU: **28 October 2013**, FSE: **29 October 2013**, FSS: **7 November 2013**, FTP: **4 November 2013**.

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

4.3 Open calls under FP7 and Euratom

The following call for proposals is currently open under the [Ideas](#) programme (managed by the ERC)

Call	Launched	Deadline
Calls for proposals for ERC Proof of Concept Grant	10 January, 2013	3 October, 2013

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

- [Information and Communication Technologies](#) / 1 open call
- [Joint Technology Initiatives \(Annex IV-SP1\)](#) / 2 open calls

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

- [Research Infrastructures](#) / 1 open call
- [Support for the coherent development of research policies](#) / 1 open call



5 Jobs

China - Chief Scientist at Terahertz Research Center, China Academy of Engineering Physics (Chengdu)

Main responsibility:

- a. To forward prospect for medium and long term disciplinary development and annual research programs for the center.
- b. To lead the disciplinary direction of the center.
- c. To take full charge of operation of the center.

Research Areas:

- a. Semiconductor physics
- b. Electronic components
- c. Integrated circuits
- d. Electron vacuum technology
- e. Micro- system technology

Requirements:

A doctorate degree in related areas. Qualified as a Chinese academic or as a candidate for the Chinese One-Thousand-Talent Recruitment Plan for Overseas Chinese of High-level Talents.

Deadline for application is **12 November, 2013**.

Further details in source: [Nature Jobs](#)

China – Senior Bioinformatics Engineer--Pharmaceutical medicine/ human disease/ proteomics/ biological agriculture, at the Beijing Genomics Institute (BGI)

Job responsibilities:

- Responsible for the bioinformatics analysis in pharmaceutical medicine/ human disease/ proteomics/ biological agriculture;
- Have a good knowledge of proteomics technology and its current trend, and design plans and schedules for programs.
- Provide program support services and solve problems.
- Journals writing, program description and result analysis.

Qualifications:

- Master in biological related majors.
- Good knowledge of development in proteomics technology and application. Experience in mathematics and programming is preferred;
- Good group collaboration and study ability.



Work location: Shenzhen, China; Unit: BGI Tech Solution Co., Ltd.

Application deadline is **29 November 2013**.

Contact: hr-bgiseq@genomics.cn

Source: [Nature Jobs](#)

China - Gene Synthesis technical Director at the Beijing Genomics Institute (BGI)

Job responsibilities:

- Research and development projects in gene synthesis, synthetic biology projects ;
- According to customer, make research projects, analysis and development programs, product design ;
- Laboratory research and development and design the technical framework, technical specifications to guide the technical work of the R & D personnel, and technical improvements to the product recommendations;
- Responsible for the progress of the implementation of the R & D projects, to ensure the proper implementation of the project, responsible for the progress of the entire product development process control and technical guidance ;
- Responsible for training R & D engineers , performance evaluation, job evaluation; collect of knowledge, information, sharing knowledge and results in the development process ;
- Drafting technical documents and other documents to complete the promotion of technology.

Qualifications:

- Doctoral degree or Master's in molecular biology, genomics, molecular genetics research and development background ;
- Experienced in molecular biology, proficient in the synthesis of nucleic acids, gene synthesis, synthetic biology techniques and types of molecular biology experiments ;
- Five years of molecular biology gene synthetic biology lab work experience ;
- Clear thinking agility, have good science prospective;
- The strong learning and the ability to solve problems, and to finish the experiment solution design and implementation ;
- Good psychological quality and team cooperation ability, and strong sense of responsibility°

Work Location: Beijing, Shanghai

Application deadline is **29 November 2013**.

Contact: hr-bgiseq@genomcis.cn

Source: [Nature Jobs](#)



China - Overseas Sales : Asia-Pacific, China at the Beijing Genomics Institute (BGI)

Responsibilities:

- Responsible for the regional market development, customer retention and sales management etc;
- Responsible for product promotion, complete the sales targets and set up refund standard;
- Develop their own sales plan, visit customers and develop new customers according to plan;
- Collect and search for customer information, build up customer files;
- Complete the signing of the sales contract, coordinating and handling all types of market problems;
- Collect the information about the market and competitors, gain the feedback from the market demand and trends and customer requirements and other information, and provide suggestions to the supervisors.

Qualifications:

- Master degree or above in biological or related majors, medicine and molecular biology is preferred, fluent in English;
- Have molecular biology background and research experience, proficient in the principle, process and details of scientific experiments;
- Gain relevant scientific research perspective and understanding, explore and discuss the research content with customer, good at solutions design;
- Have relevant work experience is preferred;
- Must be willing to travel overseas for 2-3 months.

Work Location: Europe or Asia-Pacific

Application deadline is **29 November 2013**.

Contact: zhongxiaoshan@bgitechsolutions.com

Source: [Nature Jobs](#)

China - Four (4) Faculty Positions at the Rank of Full/Associate/Assistant Professor in Bio-Fabrication and Tissue Engineering at Harbin Institute of Technology in Shenzhen

Harbin Institute of Technology (HIT) in Shenzhen invites applications from qualified individuals for four (4) faculty positions at the rank of Full/Associate/Assistant Professor, in the areas of bio-fabrication and tissue engineering for the repair/treatment of peripheral nerve, spinal cord, cartilage, and/or myocardial infraction. Applicants must possess a Ph.D. in biomedical engineering, medicine, or a closely related discipline and have demonstrated evidence of research and teaching excellence. Each successful candidate is



expected to establish and/or sustain a vigorous research program in tissue engineering of one or more aforementioned areas and to contribute to high-quality undergraduate and graduate education in his/her specialized areas by using English and/or Chinese.

The closing date for applications is **December 1, 2013**. From then, the review of applications will begin and continue until all positions are filled. Preferred starting date is April 1, 2014.

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

Discover more job offers in China on [Nature Jobs](#).

Netherlands - Ph.D. Student in ethics (fulltime) at the University of Twente

The PhD position is part of a prestigious and exciting four-year project, SATORI, which is a EU-FP7-funded "Science and Society" project with a total budget of 4.7 million euros. The aim of the project is to develop common methods, standards and approaches for the ethical assessment of research and innovation within Europe, to the benefit of assessors, stakeholders and society as a whole, and in association with major non-European partners, especially the US and China.

The project will start in January 2014.

Professor Philip Brey of the Department of Philosophy at the University of Twente is the coordinator (leader) of the project and one of its main researchers. As a PhD student in the project, the selected person will be working closely with Prof. Brey in developing the framework for the project and will also have an assisting role in coordination of the project. Prof. Brey is full professor in philosophy, with a focus on ethics and technology.

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

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

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:

- 1 doctoral position
- 4 senior researcher positions

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



6 Events

6.1 EURAXESS Links China

European Research & Innovation Tour of China 2013 to kick-off in Harbin on 15 October

The representatives of the EU Delegation and EU Member State Embassies to China, 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. The presentations of both EU and individual European countries' research landscapes and funding programmes give Chinese stakeholders a unique opportunity to get an overview of the range of opportunities for international collaborations and mobility that Europe can offer.

EURAXESS Links China will take part in most of this year's tour stages. The programme of the Tour of China 2013 is as follows:

- 15 Oct. Harbin Institut of Technology
- 16 Oct. Northeastern University (Shenyang)
- 22 Oct. Northwestern Polytechnical University (Xian)
- 24 Oct. Wuhan University
- 23 Oct. Science and Technology Academy of Chongqing
- 31 Oct. Tianjin University
- 13 Nov. Nanjing University (*exact date tbc*)
- 14 Nov. Tongji University (Shanghai) (*exact date tbc*)
- 15 Nov. Hnagzhou (*date and venue tbc*)
- 21 Nov. Closing of the tour event in Beijing (*exact date and venue tbc*)

Contact china@euraxess.net for further details about this promotion campaign and how to attend the events.

6.2 EURAXESS Links China Recommends

CEFC Seminar on “Growth, the middle classes and democracy in India: How different from China?” – 7 October - Hong Kong

The guest speaker will be Dr. Saroj Giri who teaches Political Theory in the Department of Political Science, University of Delhi. He works on social movements, movements against displacement, secularism and religious identity. His recent work is on new forms of activism like WikiLeaks and urban



phenomena like the new middle classes and the anti-corruption movement in India.

Dr. Saroj Giri will share his views on the the relations between the policial class, the aggressive middle classes and the large population of the poor in the Indian electoral democracy.

This seminar will be held in English and is open to all those interested.

Details of the event are as follow:

- Date: Monday, 7 October 2013 @ 7pm
- Venue: Room Segalen, 25/F, Admiralty Centre, Tower 2, 18 Harcourt Road, Hong Kong
- Reservation & Contact: Miriam YANG
- cefc@cefc.com.hk / tel: 2876 6910

Registration open for CHAIN-REDS FP7 Project workshop on "e-Infrastructures for e-Sciences" – 22 October 2013 – Beijing

Registrations are now open for the [CHAIN-REDS Project workshop on "e-Infrastructures for e-Sciences"](#) focusing on Cloud Computing and Data Repositories in Beijing, P.R. of China on October 22, 2013.

The workshop is organised under the aegis of the European Commission and in co-location with the International Conference on e-Science ([IEEE2013](#)) 2013 that will be held in Beijing, P.R. of China on October 17-22, 2013.

Organised by [IHEP](#), [INFN](#) and [Sigma Orionis](#) with the support of all [project partners](#), this workshop will aim at:

- Presenting the state of the art of Cloud computing in Europe and in China and discussing the opportunities offered by having interoperable and federated e-Infrastructures;
- Exploring the existing initiatives of data infrastructures in Europe and China, and highlighting the data repositories of interest for the virtual research communities in several domains such as health, agriculture, climate, etc.

The preliminary agenda is available [here](#)

To register, please click [here](#). Registration to the CHAIN-REDS workshop is free.

To register for the main conference, please visit [IEEE2013 website](#)





6.3 Upcoming scientific events in China

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

Field	Date	Location	Title (click for more details)
Genetics	7-11 October, 2013	Suzhou	CSH Asia 2013 Conference on Genetic, Genomic, and Translational Studies of Human Leukemia
Atmospheric science	9-10 October 2013	Ningbo	International Conference on Atmospheric Science and Air Pollution Control and The 7th Fine and Ultrafine Particles Workshop
Neuroscience	10-15 October, 2013	Shenyang	3rd International Neural Regeneration Symposium (INRS2013), in conjunction with the 5th International Spinal Cord Injury Treatments and Trials Symposium
Biology	14-18 October, 2013	Suzhou	CSHA / ISSCR Joint Meeting on Stem Cells in Science and Medicine
Biology	15-20 October, 2013	Beijing	The 11th World Conference on Animal Production · WCAP2013
Neuroscience	21-25 October, 2013	Suzhou	CSH Asia 2013 Conference on Development, Function and Disease of Neural Circuits
Medicine	28-29 October, 2013	Shanghai	First International Experimental Biology and Medicine Conference on "Interdisciplinary Approaches to Cancer Research" (Free)
Immunology	28 October-1 November, 2013	Suzhou	CSH Asia 2013 Conference on Tumor Immunology and Immunotherapy
Genomics	30 October-1 November, 2013	Shenzhen	The 8th International Conference on Genomics
Metabolism	4-8 November, 2013	Suzhou	CSH Asia 2013 Conference on Nuclear Receptors and Diseases
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
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)
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



7 Press Review*

7.1 Policy & Papers

Chinese scientists now among most cited in sci-theses

China ranked second in terms of the number of its theses published in the most recognized scientific magazines and journals in 2012, a government think tank revealed on Friday. A total of 4,020 scientific theses were carried by the "most influential" world-class magazines and journals last year, according to China's Institute of Scientific and Technical Information under the Ministry of Science and Technology. Chinese scientists in 2012 published 187 theses on the most prestigious magazines of Nature, Science and Cell, moving up a spot from 2011 to rank ninth the institute said. In the past decade, more than 1.14 million scientific theses have come from Chinese scientific and technical personnel, the second-highest number worldwide. The theses' overall quality has also risen, according to the institute. Those published in the past decade have been cited about 7.1 million times in total, ranking fifth in the world. More than 9,524 scientific theses qualify as "highly cited theses," or those among the top 1 percent in terms of citations, climbing one place to rank fourth. However, Chinese theses are cited an average of 6.92 times, much lower than the world average of 10.69 times. (source: [Xinhua net](#))

China shows off scientific, technological achievements

China became one of the world's top five countries that have the highest total citation of scientific and technology papers. On Friday, the Institute of Scientific and Technical Information of China published its latest report on the performance of Chinese sci-tech papers, with data updated in September. Since 1987, the annual report has been a source of decision-making support for government agencies. The report, the Statistical Data of Chinese S&T Papers, showed Chinese researchers published 1.14 million International sci-tech papers since 2003, ranking second place in the world. These papers had a total citation of nearly 7.1 million times, ranking it fifth, moving up one place from 2012. (source: [Xinhua net](#))

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Premier calls for new urbanization strategies

China should manage the pace and quality of its inevitable urbanization, Premier **Li Keqiang** said at a recent conference with the nation's top scholars. New challenges will certainly arise in urbanizing and modernizing, given the country's population of 1.3 billion, he said. And urbanization is a long process that cannot be completed overnight, he added. "But we should be guided by ordinary people's hopes, and be active and orderly in pushing the process forward," he said. Li invited more than a dozen experts from the Chinese Academy of Sciences and the Chinese Academy of Engineering to Zhongnanhai, the central government complex. It was an apparent sign of his concern about advancing urbanization, which has emerged among his top policy priorities since he took office. A medium- to long-term urbanization outline is expected to be announced after the 18th CPC Central Committee's third plenary session in November. (source: [China Daily](#))

Top 10 universities in the world 2013

The latest ranking of the world's top universities has been released by the Quacquarelli Symonds (QS), a leading global career and education network. The Massachusetts Institute of Technology (MIT), the world-famous university, continues to rank first. Harvard University moved up one place from last year and is now ranked No.2. The University of Cambridge dropped from last year's second place to the third. The top 10 is dominated by U.S.- and UK-based universities. ETH Zurich (Swiss Federal Institute of Technology) ranks 12th. The QS World University Rankings are annual university rankings which provide overall rankings, as well as rankings for individual subjects. It is regarded one of the world's three most influential and widely observed international university rankings, along with the Times Higher Education World University Rankings and the Academic Ranking of World Universities. Its criteria include academic peer reviews, faculty student ratio, citations per faculty, recruiter reviews and international orientation. (source: [China.org](#))

7.2 Voices & Opinions

Xi calls for innovation push in Dalian

President Xi Jinping called for the nation's high-tech industries to embrace companies with advanced technologies and business management skills in a visit to Dalian, Liaoning province, on Thursday (29 August). During a tour through the coastal city's high-tech industrial zone, Xi was given a demonstration of high-tech products, including a battery-powered vehicle and a robot that crawls. He said the high-tech industrial zone should refuse companies who are incapable of producing advanced technologies. Not all



"vegetables" — in reference to companies — belong in the "basket" of high-tech industrial zones, Xi said. The Dalian High-Tech Industrial Zone, covering an area of 153 square kilometers, was established in 1991 and houses about 4,700 companies engaged in software and information services development. At one stop at an IT solutions and services company, Xi encouraged the workers to help advance Chinese society through technological innovation. The nation's traditional methods of development are no longer sustainable and today's economic development must rely more on talent, Xi said. (source: [China Daily](#))

2013 Summer Davos opens, focus on innovation

The Annual Meeting of the New Champions 2013, also known as Summer Davos, opened Wednesday in northeast China's port city of Dalian. This year's forum, themed "Meeting the Innovation Imperative," will feature interactive discussions on issues such as sustainable growth, energy security, trade and investment. "Reform and innovation provide an inexhaustible driving force for a country's development," said Chinese Premier Li Keqiang in his keynote speech at the opening ceremony. (source: [Xinhua net](#))

Chinese vice premier stresses food safety

Strengthened supervision and harsher punishments are needed to ensure food safety for the public, Chinese Vice Premier Zhang Gaoli urged on Wednesday. The general situation of food safety is stable, and public access to safe food and water is guaranteed, but potential risks remain, Zhang said at a conference of the food safety commission under the State Council, or China's cabinet. The government must impose strict controls over food sources and prevent pollution from agricultural non-point sources. Food supervision should follow the entire process "from the farmland to dining tables," he said. (source: [Xinhua net](#))

Education and sci-tech can boost economy

The government will continue to prioritize and invest in education, and enhance science and technology, to stabilize and transform the slowing economy, Premier Li Keqiang said. "China should place education, science and technology in strategic positions and view them from an overall perspective," Li said, during the national science, technology and education leadership group's first meeting. Li is the group's leader. China has pledged to prioritize education's development for years. Its fiscal expenditures on education last year accounted for 4 percent of GDP - 2.2 trillion yuan (\$360 billion) - the highest amount to date. Li also pointed out China should infuse its economy with science and technology in innovation- and job-driven efforts to translate science and technology into productivity. "We should examine global science and technology trends and identify what China really needs for its industrial transformation and upgrade," he said. "We should bring enterprises' potential into full play and inspire researchers' innovation capabilities, turning innovative



efforts into real economic and social benefits." At the 18th National Congress of the Communist Party of China late last year, the government launched an innovation-driven strategy, identifying innovation's strategic position in the national development blueprint. China's social R&D expenditures have grown more than 20 percent annually in recent years, reaching 1 trillion yuan. The country has more R&D experts than any other at 3.2 million. (source: [China Daily](#))

7.3 Thematic Activities

Health

Scientists Explore the Applications of Graphene Oxide in Drug Delivery

Graphene exhibits unique 2-D structure and exceptional physical and chemical properties that lead to many potential applications. Among various biomedical applications, drug delivery systems based on graphene have attracted ever-increasing interests in the last few years. Recently, a research team headed by Professor ZHANG Zhijun at Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, has made significant progress in development of graphene oxide (GO)-based drug delivery systems. They have demonstrated for the first time that PEGylated-GO as a biocompatible and efficient nanovector for loading and delivery of proteins into cells, and that GO prevents the proteins from enzymatic hydrolysis. Their work further indicates that the proteins delivered by PEG-GO retain their biological functions to regulate cell function (ACS Appl. Mater. Interfaces, 2012, 4, 6317-6323). Based on the aforementioned work, ZHANG's group, in collaboration with Professor Qing Lan at the Second Affiliated Hospital, Soochow University, has explored the application of functional GO for glioma-targeted drug delivery. (source: [CAS](#))

Molecular Structure Reveals How HIV Infects Cells

In a long-awaited finding, a team of Chinese and US scientists has determined the high-resolution atomic structure of a cell-surface receptor that most strains of HIV use to get into human immune cells. The researchers also showed where maraviroc, an HIV drug, attaches to cells and blocks HIV's entry. This important breakthrough news was released yesterday from *Science-AAAS* press conference held in Shanghai Institute of Materia Medica, Chinese Academy of Sciences. It is the first time *Science-AAAS* holding press conference in Shanghai. "These structural details should help us understand more precisely how HIV infects cells, and how we can do better at blocking that process with next-generation drugs," said Beili Wu, PhD, professor at the Shanghai Institute of Materia Medica (SIMM), Chinese Academy of Sciences. Wu was the senior investigator for the study, which was published in *Science* on September 12,



2013. The study, which focused on the CCR5 receptor, was supported by both US and Chinese research funding agencies. “International collaborations like this one are increasingly needed to solve big problems in science,” said study co-author Raymond C. Stevens, PhD, a professor at The Scripps Research Institute (TSRI) in California. “Now that we have both human CXCR4 and CCR5 HIV co-receptor three-dimensional structures, it is likely we will see the next generation of HIV therapeutics.” (source: [CAS](#))

AIDS is biggest killer among infectious diseases

A total of 1,497 people died of infectious diseases on the Chinese mainland in August, with AIDS the top cause of death, according to figures released by health authorities on Monday. AIDS infections resulted in 1,102 deaths last month, according to a statement posted on the website of the National Health and Family Planning Commission. Tuberculosis was the second-biggest killer by claiming 161 lives. A total of 619,396 infectious disease cases were reported on the Chinese mainland last month, according to the statement. (source: [People](#))

Chinese researchers identify key protein behind depression

Chinese researchers said that they have identified a key protein in the brain responsible for the development of depression, offering a fresh avenue in the search for therapies to treat depression. Previous studies have found that cells in a brain region called lateral habenula (LHB) are hyperactive in depressed individuals, but scientists haven't known what triggers them. Curious about molecular-scale activity in the LHB of depressed people, the researchers from the Shanghai Institutes for Biological Sciences, part of the Chinese Academy of Sciences, used a technique called quantitative proteomic screening to examine the proteins in the LHB tissue of regular rats and rats that had been depressed since birth. The researchers reported in the US journal *Science* that a protein called CaM was nearly twice as abundant in the depressed rats. (source: [Global Times](#))

Scientists find possible human bird flu link

Chinese scientists have discovered that a type of H7N9 bird flu can bind with a human receptor, which explains how the virus can infect human beings. Research focused on how H7N9 infected human beings, examining the two earliest reported virus types, known as isolates. These were SH-H7N9 and AH-H7N9, discovered in Shanghai Municipality and Anhui Province respectively. Researchers evaluated the viral hemagglutinin receptor binding properties of the two isolates. A receptor is a protein molecule in a cell, or on a cell, to which a substance can bind. A virus has to combine with a receptor in order to infect the host. Researchers found that SH-H7N9 reported in Shanghai preferentially binds the avian receptor analog, whereas the AH-H7N9 from Anhui Province binds both avian and human receptor analogs. The research titled Structures



and receptor binding of hemagglutinins from human-infecting H7N9 influenza viruses, jointly authored by a team from the Chinese Academy of Sciences, was published online on September 5 by Science, a leading journal. (source: [Global Times](#))

* * *

Food, agriculture & fisheries, biotechnology

Genome Sequencing and Functional Research of Date Palm

Date palm is the main crop which is widely planted in the Middle East and North Africa with great economic values. Besides, the palmae, to which date palm belongs, is in a special taxonomic status with various species and wide distributions. In order to uncover the molecular mechanisms of the yield, reproduction and stress-resistance of date palm, collaborative efforts from both Saudi and Chinese scientists firstly carried out date palm genome sequencing. The research team led by Prof. YU Jun and HU Songnian from Beijing Institute of Genomics, Chinese Academy of Sciences (BIG), completed the sequencing and assembly of a high quality genome of the main cultivar Khalas as well as the draft of another three date palm strains. (source: [CAS](#))

Chinese hybrid rice yield hits record

A team led by Yuan Longping, known in China as "the father of hybrid rice" has made a record for hybrid rice production with an average yield of 988.1 kilograms per mu (0.0667 hectares). Deng Qiyun, a member of the team, told Xinhua Sunday that the new progress has pushed China's hybrid rice study to a new level and greatly boosted the team's confidence to achieve the targeted production of 1,000 kg per mu. The new record was confirmed by experts from the China National Rice Research Institute, the Wuhan University and the Fujian Academy of Agricultural Sciences, who actually harvested three lots of a farm of 101.2 mu growing the new hybrid rice known as "Y liangyou 900" on Saturday. The farm is located at Niuxing Village, Longhui County of central China's Hunan Province on Saturday. Officials from the China National Hybrid Rice Research and Development Center confirmed the development. (source: [China.org](#))

China builds marine life germplasm bank

China on Thursday announced to construct a state-level germplasm bank of marine medicinal plants and animals in the southeastern coastal city of Xiamen. "Our germplasm bank is very much like a 'Noah's Ark' for marine life," said Lin Xiangzhi, a researcher with the State Oceanic Administration and also head scientist of the germplasm bank. With a storage area of 2,000 square meters, the bank will be used to preserve more than 20,000 seed and gene samples



from marine medicinal plants, animals and microorganisms, Lin said. "If some marine plants went extinct, we could take some seeds from the germplasm bank to grow them anew," he said. Researchers from more than 20 universities and research institutes will join the bank to work out key technologies for collection, storage, utilization and sharing of the seeds and other materials in the germplasm bank, he said. The germplasm bank is scheduled to be completed by December 2015. (source: [China.org](#))

Whole genome sequence of tiger mapped

An international team of genome scientists has mapped the whole genome sequence of big cats, including tiger, lion and snow leopard, with the purpose of investigating the genetic diversity and conservation of big cats. The research team, led by scientists in South Korea, in collaboration with colleagues from China, the United States, India, Mongolia, South Africa and other countries, published the latest findings in the September issue of Nature Communications. Yun Sung Cho, the first author of this published paper, and his colleagues presented the first tiger genome sequence assembly, utilizing the DNA of a nine-year old Amur tiger from Everland Zoo, South Korea. The team identified 1,376 big-cat specific genes to reveal how big cats evolved into top predators with extraordinary muscle strength and a carnivorous diet. "The most important academic reason of choosing tiger (big cat) genome was to experiment a new genomics approach called 'close but distinct species genomics'," Jong Bhak of South Korea's Personal Genomics Institute in Suwon, one of the lead scientists of the research, told Xinhua. Bhak said cat species are genetically quite close but they exhibit distinct phenotypes, namely outward traits. Scientists have mapped the genome of cat in 2010. However, the quality of the cat reference was not high enough to find big cat specific variations. (source: [Global Times](#))

China issues list of import GM crops

China has so far granted the import of a list of genetically modified (GM) crops including soybean, corn, oilseed rape, cotton and sugar beet, the People's Daily reported on Monday, adding that these plants have to gain a safety certificate issued by Chinese authorities. This was in a response to public doubt on whether the country has stringent enough standards on what GM crops can be planted domestically and what can be imported. Cotton, rice, corn and papaya are issued with a valid safety certificate, Xie Jijian, a research fellow with the Institute of Plant Protection under the Chinese Academy of Agricultural Sciences (CAAS), was quoted by the People's Daily as saying on Monday, adding that the certificates can be traced by the public on the website of the [Ministry of Agriculture](#). (source: [Global Times](#))

Experts appeal for labelling GM food

A war of words by two online celebrities has aroused a new round of debate on the safety of genetically modified (GM) food, with some experts appealing for



the consumers' right to be informed when buying GM products. Fang Zhouzi, a biochemist and vocal supporter of GM technology, led more than 20 volunteers eating GM corn on Saturday at an experimental field of corn of the China Agricultural University, and on Sunday, well-known talk show host Cui Yongyuan questioned Fang on microblog. Following Cui's microblog postings, Fang refuted, and the dialogue grew heated, attracting many netizens and experts into the discussion. As GM food remains controversial worldwide, and the debate did not come to any agreement, but consumer awareness of GM products, with the gradual flows of such products into our daily lives, has been heightened by the exchange. (source: [Xinhua net](#))

* * *

Information & communication technologies

The '50-50' Chip: Memory Device of the Future?

A new, environmentally-friendly electronic alloy consisting of 50 aluminum atoms bound to 50 atoms of antimony may be promising for building next-generation "phase-change" memory devices, which may be the data-storage technology of the future, according to a new paper published in the journal *Applied Physics Letters*, which is produced by AIP Publishing. Phase-change memory is being actively pursued as an alternative to the ubiquitous flash memory for data storage applications, because flash memory is limited in its storage density and phase-change memory can operate much faster. Phase-change memory relies on materials that change from a disordered, amorphous structure to a crystalline structure when an electrical pulse is applied. The material has high electrical resistance in its amorphous state and low resistance in its crystalline state -- corresponding to the 1 and 0 states of binary data. (source: [CAS](#))

World's first mimicry computer developed in China

Inspired by the octopus -- the world's most skilled "master of camouflage" -- Chinese scientists have now put forward a new theory of mimicry computing and successfully developed the world's first dynamic variable structure mimicry computer based on bionics, cognitive science and information technology. Scientists got the inspiration from the "master of camouflage," as octopi can combine their highly flexible bodies with their color-changing ability to accurately mimic at least 15 different animals. Unlike a conventional computer which features "fixed structure and software-programming reliance," the mimicry computer has a dynamic structure and can adjust to users' various needs by changing its configuration. Tests show that mimicry computers are highly effective, somewhere between ten and one hundred times more so than conventional computers. According to experts, the success represents a



breakthrough in highly-effective computer research, making China a pioneer in the field of computers, instead of just following suit. Meanwhile, the invention also means a major innovation in active defense system research. The research and development was led by the Chinese Academy of Engineering academician Wu Jiangxing, and supported by the Ministry of Science and Technology of China and the Shanghai government. As Wu said, for the first time Chinese scientists combined bionics, cognitive science and modern information technology to propose an actively-cognitive reconfigurable structure based on mimicry computing. It took six years for more than 500 researchers from about 10 research organizations, both from home and abroad, to complete the task. (source: China.org)

Baidu to offer navigation service for free

Baidu Inc, a Chinese search engine provider, will refund the previous buyers of its Baidu Navigation as it believes free navigation service is an irresistible trend, the company said Thursday on its Sina Weibo account. Baidu Navigation is a smartphone application and used to cost 30 yuan (\$5) in the app store. "Free service is a part of Baidu Navigation's long-term plan. With the fast development of mobile Internet, offering free navigation service is an obvious choice," Feng Hua from Baidu's User Product Marketing Department told the Global Times Thursday by e-mail. Autonavi Navigation, the most popular navigation app in the Chinese market, also announced to offer free navigation service at a press conference held Thursday, which was live on its Weibo. (source: Global Times)

Huawei to create 5,500 new jobs in Europe

Huawei, China's leading information and communications solution provider, has pledged to diversify its service portfolio in Europe, while the United States has offered no easy market access, its senior executive said. "Our expansion progress in Europe is different from that in the US, where we have encountered access difficulties due to some groundless reasons given by the American side," Patrick Zhang, president of marketing and solutions, Huawei Enterprise Business Group, told China Daily in the Netherlands. While continuously enhancing business cooperation with European telecommunications operators, Zhang said providing information technology solutions to European enterprises is a new growth engine for the company in Europe. Zhang said Huawei started this new business in 2011 and the growth rate is now rapid, with turnover in enterprise business expected to reach \$1 billion in the next three to five years. Huawei's presence in Europe began in 2003 and the company's revenue on the continent reached \$4.17 billion last year. It employs more than 7,500 staff in Europe, most of them locals. Huawei has run 13 research and development sites in eight European countries — Belgium, Finland, France, Germany, Ireland, Italy, Sweden and Britain — and operated dozens of joint innovation centers in partnership with local telecoms and information and communication technology partners. To boost its European expansion, Huawei is to create



5,500 new jobs in the next five years in Europe, where the jobless rate has reached more than 10 percent on average. (source: [China Daily](#))

Huawei doubles investment in R&D in Europe since 2010

Huawei, a global company in information and communication technology (ICT), has doubled its investment in research and development (R&D) in Europe since 2010, a press release from the company said here Friday. "Huawei is committed to reinvesting a minimum of 10 percent of revenue in R&D every year," said Renato Lombardi, vice president of Huawei's European Research Center. "In 2012, we reinvested over 13 percent of our global revenue in R&D, one of the largest single commitments to R&D in the ICT industry by a private company," Lombardi said. "Our investment in R&D in Europe also continues to grow. It doubled between 2010 and 2013 and we expect it will double again over the next five years," he added. (source: [Xinhua net](#))

Chinese hi-tech firms urged to advance IC technology

Chinese technology companies were urged to make greater efforts to innovate and enhance the nation's integrated circuit (IC) sector. More efforts should be made to boost innovations in technologies, mechanisms, management, as well as the sector's business mode so as to make it stronger, Chinese Vice Premier Ma Kai said. The vice premier made the remarks on Thursday during visits to several Beijing-based companies, including Baidu and China Datang Corporation. He said that the industry is the basis for developing other emerging industries of strategic importance and promoting the integration of information technology and industrial development. He added that the IC industry also serves as an important guarantee for China's economic transformation, restructuring of the information industry, expansion of information consumption and national security. (source: [Xinhua net](#))

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Nanosciences, nanotechnologies, materials & new production technologies

Czechs hope to cut China's PM2.5 with nanotech

The Czech Republic hopes to introduce its nanofiber technology to China to help cut [air pollution](#) and purify water, said Jiri Krechl, an official with CzechInvest, at the Czech embassy in [Beijing](#) on Sept 27. Nanofibers have a high potential in air purification and water treatment, said Ladislav Mares, chairman of Nafigate Corporation, a Czech company that has know-how concerning nanofiber applications. Filters coated with nanofibers can dramatically improve filtration efficiency and can get rid of PM2.5 - particulate



matter smaller than 2.5 microns in diameter that can penetrate the lungs, said Mares. Hu Ping, a Tsinghua University professor specializing in nanofibers, said Czech's nanospider technology for producing nanofibers is advanced in the world and should be introduced to China. However, Krechl said nanofibers are very expensive to produce. He added that industrialization needs both governmental support and cooperation between Czech companies and their Chinese peers. Xie Xuanhui, who received his doctorate in nanotechnology and is now a director of Origo Partners PLC, said nanotechnology has a huge market in the long run, but in the short term, almost everything is lacking along every part of the industrial chain. He added that there is a long way to go from the laboratory to the final products. (source: [China Daily](#))

New Solid-State Reversible Nonlinear Optical Molecular Switch Revealed

Phase-change crystalline materials which possess the switchable dielectric performances play important roles in the data communication, signal processing and sensing, and erasable storage of the optical data, *etc.* Among these materials, molecules or substances able to change their nonlinear optical (NLO) activities are generally called "NLO switches", which are able to alternate between two or more different states with changes of bulk quadratic NLO activity, *i.e.* second-harmonic generation (SHG). Recently, it has long been an important research focus to explore the novel solid-state reversible NLO switches with the reversible large contrast. The research group headed by Prof. LUO Junhua at Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, has explored a novel molecule-based NLO switch, which exhibits reversible switching of its second-order optical nonlinearity with a large contrast. (source: [CAS](#))

Origin of Shape Resonance in Second-Harmonic Generation from Metallic Nanohole Arrays

The physics of a system with broken symmetry is rich and interesting. Second harmonic generation (SHG) is one of the most useful methods for investigating surfaces, since it is only sensitive to the few layer surface atoms with broken spatial symmetry. Ultrafast surface SHG is especially useful for investigating nonlinear optics in nanophotonics. Although nano-optics is seen as a natural extension of conventional optics, the nonlinear optics aspect is non-trivial. Recently some groups have found that geometric shape greatly affects the nonlinear signal intensity in a nano-system. With identical area, the one with optimized shape can lead to two orders of magnitude enhancement in the SHG intensity. However, so far there is no clear understanding about the physical origin of this shape resonance effect. Associate Professor ZHAO Jimin from State Key Lab for Surface Physics, Institute of Physics, Chinese Academy of Sciences has developed techniques of detecting weak SHG signal and 2fs resolution ultrafast spectroscopy. He and Professor LI Zhiyuan from Lab of Optical Physics, Institute of Physics, Chinese Academy of Sciences collaborated together to investigate this problem experimentally and



theoretically. They conclude that the by-default modal spatial overlap that is fulfilled in conventional nonlinear optics may not fulfill automatically at nanoscale. It is greatly modified by the shape. (source: [CAS](#))

Acoustic Cavitation Structures Produced by Artificial Implants of Nuclei

Ultrasonic cavitation field in liquid provides a unique environment for chemical reactions and has many applications. Each bubble in the cavitation field acts as a single sonochemical reactor in itself. However, cavitation bubble distribution is spatially inhomogeneous. They can form different structures in the ultrasound field. In order to increase the efficiency of sonochemical reactors, it is necessary to study cavitation bubble structure of increasing the spatial density of bubbles and controlling the position and structure of bubble cloud. As a result, BAI Lixin, DENG Jingjun, LI Chao and XU Delong from the Institute of Acoustics, Chinese Academy of Sciences present a method to produce high-density controllable bubble structures in the vicinity of radiating surface by artificially implanting nuclei. These high-density cavitation structures can be produced at relatively low acoustic radiation intensity. And it will improve the performance of sonochemical reactors. They also found that this kind of cavitation can be well controlled. In addition, letters could even be formed with these cavitation bubbles. The controllability of cavitation bubble cluster may be used in the other industrial units. (source: [CAS](#))

LICP Develops Novel Approach to Grow Polymer Brushes Using Small Volumes (μL) of Solution

Among different surface-polymerization strategies, surface-initiated atom-transfer radical polymerization (SI-ATRP) is one of the most versatile and widely used routes to prepare well-defined polymer brushes. However, there are still many shortcomings concerning this method, namely the use of inert atmosphere to protect the reactions, waste of large amount of monomer solution, poor controllability of the growth of polymer chain. In cooperation with Radboud University Nijmegen in Poland and the Hong Kong Polytechnic University, the research group for surface/interface of materials at State Key Laboratory of Solid Lubrication of Lanzhou Institute of Chemical Physics of the Chinese Academy of Sciences (LICP), has exploited the electrochemical potential difference between reductive metals and a $\text{Cu}^{\text{II}}/\text{L}$ solution to generate a $\text{Cu}^{\text{I}}/\text{L}$ catalyst that initiates surface-bound ATRP. This method allows polymer-brush growth in a metal-substrate sandwiched architecture in air, using volumes as small as $5 \mu\text{L}$, in which Cu^{I} activators are continuously generated and diffusively transported to the initiator-modified substrate. Polymer-brush gradients and complex shapes were easily generated by spatially distributing the generation of the catalyst. (source: [CAS](#))

Superconductivity in Topological Insulator Sb_2Te_3 Induced by Pressure



As new states of quantum matter, topological insulators are characterized by an insulating gap in the bulk state and a robust metallic surface or edge state protected by time-reversal symmetry. The research group led by Prof. JIN Changqing, from Beijing National Laboratory for Condensed Matter Physics at the Institute of Physics, Chinese Academy of Sciences, focuses on studies of topological insulators and topological superconductors, especially by using high pressure methods in the past several years. They have discovered superconductivity in the ambient structure of undoped topological compound Bi_2Te_3 via using Integrated in situ high pressure measurements, which opened up a new research way -- using physical means to study topological superconductors. (source: [CAS](#))

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Environment (including climate change)

Simulation of the Effect of Root Distribution on Hydraulic Redistribution in a Desert Riparian Forest

The general phenomena of water transfer from soil via the root system have often been referred to as hydraulic redistribution (HR). HR can improve the quantity of available water in soils, delay embolism formation in plant roots and enhance the nutritional status of deeply rooted plants during dry periods. The main driving force of HR is the soil water potential gradient, which not only determines the occurrence of HR but also controls the amount of hydraulically redistributed water. Furthermore, roots are the most active participants in HR. However, very few studies have assessed the amount of hydraulically redistributed water and the effect of factors such as root distribution on HR remains unknown. In order to estimate the effect of vertical root distribution on the HR process of *Populus euphratica* during the entire growth season, HAO Xingming et al. performed simulation and scenario analyses based on the observed soil water potential and root distribution data. (source: [CAS](#))

China marks out ecologically vulnerable zones

The Ministry of Environmental Protection said on Monday that it will mark out China's ecologically sensitive and vulnerable areas and functional zones before the end of next year. The ministry said in a statement that it has completed the demarcation of the ecological "red line" in Inner Mongolia, Jiangxi, Guangxi and Hubei. A guideline was also issued to clarify the range for the demarcation, procedures and requirements. The demarcation will be completed by the ministry's Nanjing Institute of Environmental Sciences, Chinese Research Academy of Environmental Sciences, Chinese Academy of Sciences and Peking University. The area of ecologically vulnerable zones in key regions, such as Inner Mongolia Autonomous Region which is dominated by grasslands and deserts, should be no less than 20 percent of its total area, said the



statement. The government will announce policies and regulations regarding the management of ecological zones in 2014 to define obligations of various levels of governments, communities and individuals in protecting ecological "red-line" areas, it said. "The severest controlling system will be adopted" in order to closely observe the bottom line, safeguard the country's ecological security, and promote the sustainable development of the economy and society, the statement said. (source: [Xinhua net](#))

China Exclusive: Super plant combats desertification

Experts and researchers on Saturday introduced new plant technology at a conference held on Saturday in north China's Inner Mongolia Autonomous Region, to harness desertification of China. Juncao, a kind of herbaceous herb, can be cultivated as substrate for edible and medicinal fungi, which may make great strides in sand control and reduce desertification thanks to the efforts of Lin Zhanxi, professor at Fujian Agriculture and Forestry University, and his team. Lin started working with Juncao in 1986 and developed his system over more than two decades of research and innovation. In April, sand control trials using Juncao were approved by the State Forestry Administration and forestry departments in Inner Mongolia, in a shifting dune region in Alxa League, with high temperatures, winds and low rainfall. After four months the sand in the region has stabilized, and 75 percent of the Juncao are alive. Only 120 days to stabilize moving dune with Juncao means the technology could be a new way to arrest desertification in China. Research results show that the plant has a high rate of photosynthesis, and high nutritional value, as well as being low-cost and high-profit. (source: [People](#))

Processes Underlying Spatial Distribution Patterns of Tree Species Illuminated

Species coexistence and the maintenance of biodiversity are always the hot topics of community ecology. As the base of species diversity maintaining mechanism, species distribution patterns are affected by spatial distribution, species attributes, and habitat heterogeneity. Inferring the processes underlying the spatial distribution patterns of tree species is fundamental for understanding species coexistence. Vegetation Ecology Research Group, led by JIANG Mingxi, from Wuhan Botanical Garden examined spatial distribution patterns of woody plants by using the univariate pair correlation function to quantify spatial patterns of species in a fully mapped 25 ha subtropical permanent dynamic plot in China. They analyzed the relationships between the species attributes and spatial distribution patterns of 137 tree species with at least one individual per hectare. The results showed that aggregated distributions were the dominant pattern for species in the Badagongshan subtropical forests, and that the percentage of significantly aggregated species decreased with increasing spatial scales. Rare species were more aggregated than intermediate and abundant species, but they were more easily influenced by habitat



heterogeneity. Also, there was significantly negative relationship between species abundance and species aggregation intensity. (source: [CAS](#))

Beijing eyes Finnish technology for pollution control

Beijing municipal authorities are considering importing experience and clean technology from Finland to aid the city's fight against air pollution. While attending the "Beautiful Beijing" Cleantech Cooperation Seminar on Monday, Ville Niinisto, Finland's Minister of Environment, said that Finland also experienced heavy industrial pollution in the 1970s, but swiftly changed to a cleaner growth path. Finland's clean technology sector is currently worth about 15 to 20 billion euros, equal to one percent of the global clean technology market, according to Niinisto. According to a newly released five-year clean air action plan, the often smog-shrouded Beijing pledged to reduce particle PM 2.5 density from 2012 levels by 25 percent or more by 2017. Finnish Prime Minister Jyrki Katainen said his country welcomes China's emission control goals and is willing to share Finland's experience on how to protect the environment and promote sustainable development. (source: [Xinhua net](#))

Tibet vows to protect world's last "pure land"

A top official of southwest China's Tibet Autonomous Region has vowed to put environmental protection first to protect the world's last "pure land." Chen Quanguo, secretary of the Tibet Autonomous Regional Committee of the Communist Party of China, said environmental construction should be the heart of Tibet's development in a bid to protect the region's forests, grasslands, mountains and rivers. Projects with high energy consumption, pollution and emissions will be strictly banned and mineral resource development will undergo environmental assessment procedures, he added. Currently, all important construction projects in the region will undergo environmental impact assessments. (source: [People Daily](#))

New nano-tech could treat China's lake pollution

Chinese scientists announced on Monday that they have developed a type of nanomaterial which can catalyze algae masses growing on water surfaces into inorganic earth. Chinese lakes are often plagued by catastrophic outbreaks of blue-green algae. Triggered by vast amounts of sewage water drained into rivers and lakes, it can exude an unusually bad odor, suffocate fishery stocks and turn water into a milky green shade. Algae pollution has been a particular problem in three of China's major freshwater lakes -- Chaohu, Taihu and Dianchi. Chinese governments at multiple levels have invested billions of yuan in recent years to treat the pollution. But large blooms of algae, although reduced in density, still persist in times of sufficient heat and sunshine, conditions that are favorable for its growth. Scientists with the Chinese University of Science and Technology said on Monday that their laboratory tests had showed a single gram of the new nanomaterial that can kill algae floating in



an area equal in size to a basketball court. Fan Chongzheng, who led the research, said that the catalyzer leads to a biodegradation of the algae into an inorganic earthenlike substance. (source: [Xinhua net](#))

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Energy

Getting rid of the fossils

China's total energy consumption, measured in tons of coal, was 3.62 billion metric tons in 2012, rising from 1.7 billion tons in 2003. Meanwhile, non-fossil energy accounted for 9.6 percent of total primary energy consumption and will grow to 15 percent by 2020, according to the National Energy Administration. On Aug 26, the Standing Committee of the National People's Congress examined a report on the enforcement of the renewable energy law, which revealed that by the end of 2012, China's installed hydropower capacity had reached 249 million kilowatts, while wind power was almost 63 million kw and solar power was 6.5 million kw. The annual biomass consumption for energy production was equal to 30 million tons of coal. The installed capacity of renewable energy accounted for 28 percent of the national total by the end of 2012, rising 5 percentage points from 2005, and the amount of power generated by renewable energy contributed about 20 percent of gross national electricity generation. Renewable energy has become a new engine for China's economic growth and in 2012, generating facilities attracted investment totaling 400 billion yuan (\$65.36 billion), according to the report, which said the use of renewable energy has improved the environment and the quality of life for the public. (source: [China Daily](#))

Clean energy in Mideast attracts Chinese firms

Oil-rich countries in the Middle East that plan to boost clean energy development are expecting Chinese firms to grasp opportunities in the regional market. With increasing domestic energy demand, the Egyptian government is pushing for diversified energy consumption, said Mahmoud Mustafa, a senior official in charge of new energy projects with Egypt's Ministry of Electricity and Energy. By 2020, electricity generated by renewable resources will account for 20 percent of the country's total, including 12 percent from wind power and 8 percent from solar energy, said Mustafa, during the China-Arab States Expo held in northwest China's Ningxia Hui Autonomous Region from September 15 to 19. "China has accumulated much successful experience in the renewable energy sector. We hope Chinese companies will visit Egypt's renewable energy projects and establish joint ventures and exchange experiences," said the Egyptian official. Saudi Arabia, one of the world's leading oil producers and exporters, also eyes solar power development. By 2032, solar power will account for one third of Saudi's total electricity generation with the solar panel



market worth more than 100 billion U.S. dollars in the next 20 years, according to Khalid Halawani, commercial counselor of the Saudi Embassy in Beijing. Saudi Arabia is the biggest trade partner of China in West Asia and Africa, but 70 percent of trade is oil, according to Halawani. He hopes the two countries will strengthen cooperation in the new energy sector with investment from big Chinese companies. (source: [China Daily](#))

New policy boosts construction of solar plants

China's recently announced new Feed-In Tariff policy for photovoltaic power has boosted the building of new power plants. Shanghai-based QS Solar announced on Thursday that the company will build distributed solar plants in two or three national development zones from 2014, to achieve annual power generation of 500 million KWh. Sha Xiaolin, chairman of QS Solar, said his company will shift its focus from module production to construction of solar plants based on the encouraging incentive policy provided by the government. China announced a new FIT policy in late August. For utility PV ground power, the new FIT has been set at 0.9 yuan (14 US cents), 0.95 yuan and 1 yuan per KWh based on solar radiation levels where the plant locates. The distributed PV projects will get a subsidy of 0.42 yuan per KWh generated. The FIT, scheduled to last 20 years, will apply to all PV projects registered after Sept 1. Analysts said the better-than-expected policy will be a catalyst that boosts the construction of solar plants. (source: [China Daily](#))

Nuclear power generation still low in China

Gross generation of electricity in China reached 4.8 trillion kilowatt-hour (kwh) in 2012, with the nuclear power only accounting for two percent, according to the Chinese Nuclear Society. The society announced at an annual meeting held on Thursday that nuclear power in 2012 produced 98 billion kwh, only two percent of the whole electricity output of the country. Nuclear power production around the world accounts for 15 percent of the gross generation of electricity, through a total of 437 nuclear power stations. China has 17 commercial nuclear power generating units, with an installed capacity of 14.74 million kilowatts, while another 28 units, with a total installed capacity of 30.56 million kilowatt, are under construction. According to a nuclear power development plan, the capacity of nuclear power of China will reach 58 million kilowatts in 2020. "Although the peaceful application of nuclear power has become popular around the world, the proportion in China is much lower than the international level," said Zhang Guobao, director of Expert Advisory Committee under the National Energy Administration. (source: [Global Times](#))

China will be 3rd-largest natural gas producer in 2035: IGU official

China is expected to become the world's third-largest natural gas producer in 2035, an official with the International Gas Union (IGU) said Thursday. Torstein Indreb, secretary general of IGU, made the remarks at the 2013 China



International Pipeline Exhibition and Conference held in the city of Langfang in north China's Hebei Province. Spurred by the country's huge demand, China will see a sharp increase in natural gas production and rank third place by 2035, following Russia and the United States, he said. Statistics show China's production volume of natural gas surged 6.7 percent year on year to 106.7 billion cubic meters last year. The total length of natural gas pipelines exceeded 55,000 kilometers across the country. China plans to earmark 460 billion yuan (75 billion US dollars) to build 65,000 kilometers of petroleum pipelines from 2011 to 2015, including 41,000 kilometers of natural gas pipelines. (source: [Global Times](#))

Scientists oppose clean energy trade barriers at Beijing forum

Top-level scientists attending a Nobel Laureates forum in Beijing have urged all countries to push forward development of clean energies, warning trade barriers on new energy development is an unwise move that would hinder the sector's development. Over the past decade, the center of solar panel manufacturing has moved from developed nations to Asian countries such as China, Thailand, the Republic of Korea, and Malaysia, said Martin Green, a professor at the University of New South Wales who specializes in solar photovoltaic. Industrial transfer and interaction have boosted the spread of solar technologies worldwide, said Martin, who was 2002 winner of the Right Livelihood Award, also known as the "Alternative Nobel Prize." China has been actively developing clean energies to meet increasing power demand in recent years. However, this green drive has been challenged by increasing anti-dumping probes by Europe and the United States. The Chinese government considers global cooperation imperative to develop new energies, insisting that its solar panel disputes with other nations should be settled through negotiation. (source: [Xinhua net](#))

Beijing aims to slash coal use



The Beijing municipal government has vowed to slash the capital's consumption of coal by more than 50 percent over five years based on 2012 levels, according to a clean-air action plan issued on Monday. With the plan, local government is aiming to reduce the proportion of coal used within the city's total energy mix to below 10 percent. Pollution from coal-fired emissions is a major contributor to Beijing's smog, especially during the winter. The plan aims to reduce the amount of fine particulate matter to 60 micrograms per cubic meter by 2017, which would be a 25 percent drop from 2012 levels. This requires the capital to slash 13 million metric tons of coal consumption over five years. The municipal government has been cutting down on coal consumption for 14 years, according to China Environmental News, which is run by the Environmental Protection Ministry. Within that time frame, according to the publication, Beijing has slashed 7 million tons from its total coal consumption. The plan issued on Monday lists a number of coal-cutting measures, including allocating a coal quota to districts and key users, strengthening the capital's gas and electricity



supply and revising a sulfur concentration standard in coal. (source: [China Daily](#))

China to become world's largest solar energy producer

China is expected to overtake Germany this year to become the world's top country in terms of newly added solar power generating capacity, an official from China's top economic planner said Wednesday. To deal with the overcapacity problem in the domestic solar panel industry, China has undertaken measures to expand the domestic market, Zhang Xiaoqiang, vice chairman of the [National Development and Reform Commission](#), said on the sidelines of the [Summer Davos](#) Forum. The country's newly installed solar power generating capacity is expected to surpass 10 gigawatts this year, which will be more than that of Germany, according to Zhang. (source: [Global Times](#))

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Transport (including aeronautics)

C919, ARJ21 models displayed at 15th Aviation Expo China

The models of C919 and ARJ21 displayed by the Commercial Aircraft Corporation of China, Ltd at the 15th Aviation Expo China in Beijing, capital of China. The four-day event kicked off at the China National Convention Center in Beijing on Sept. 25, 2013. The Comac C919 has entered the new phase featuring parallel design and manufacturing, whole aircraft and system integration, and coordination of development and airworthiness. According to Comac Chairman Jin Zhuanglong, the phase needs the most efforts as it generates the most design changes, the most difficulties and the most unknown risks. Comac is calling on its international partners and suppliers to help smooth the way. The ARJ21, launched in 2002, is in the final phase of flight test and on track for entry into service in mid 2014. Four prototypes has flown more than 2,000 missions and logged over 4,000 hours; the first two customer aircraft are in final assembly, and the third is under construction. (source: [People Daily](#))

China's 1st electric aircraft batch produced

China's first electric aircraft - the RX1E Ruixiang two-seater - has been batch produced in Shenyang, the capital of Liaoning province, according to Liaoning General Aviation Academy, the designer of the aircraft and owner of the intellectual property rights. The aircraft, which is made of carbon fiber composite material, uses a lithium battery for its power. Compared with a traditional jet, it offers low costs, energy saving, safety and practicality. A one and a half hour battery charging is enough to make a 40-minute flight. Moreover, each



recharging only uses 10 KW, valued at about 5 yuan (80 cents). The RX1E is suitable for industrial and agricultural use, entertainment and teaching purposes. It is also suitable for high precision aerial surveying due to its low level of vibration. (source: [China Daily](#))

Courier reaches for the sky with drone

SF Express, one of China's largest couriers, has confirmed it is testing drone technology to deliver parcels. The test drone can fly to a height of 100 meters and has a navigational system that ensures it lands 2 meters from a pre-set destination, the company said in a news release. Each machine is equipped with eight propellers and a hold where packages can be inserted, it said. The maximum load was not specified. "A drone can deliver parcels to areas with poor transport links," said Chen Huan, spokeswoman for SF Express, which is based in Shenzhen. (source: [China Daily](#))

Aviation gains from exchanges

Advancement in technological capability gives China bigger say in cooperation. The Chinese aviation industry has benefited from cooperation with foreign institutes and is willing to deepen international exchanges in research, according to a senior researcher of a State-owned aviation company. "We have been benefiting from our fruitful cooperation with aviation research institutes in the European Union and Russia, and our cooperative projects focus on civil aviation technologies," said Hua Jun, deputy head of the Chinese Aeronautical Establishment. Hua made the remarks at the 15th Aviation Expo/China, which opened in Beijing on Wednesday and lasts four days. "Starting 30 years ago from simple training programs for our researchers, cooperation between us and foreign institutes has evolved to a high level, allowing us to conduct joint research and development projects," he said. He added that China's rapid development and remarkable advancement in technological capability gives the country a bigger say in such cooperation. Even in some cutting-edge aeronautical fields such as space shuttle development, Western countries are becoming more flexible and willing to work with China. (source: [China Daily](#))

China to promote new-energy vehicles

Subsidies will be provided to help promote new-energy vehicles from 2013 to 2015, the Ministry of Finance (MOF) said on Tuesday. Manufacturers of pure electric automobiles, plug-in hybrid electric vehicles and fuel cell vehicles will be eligible for the subsidies, a ministry notice said. Government organizations, public institutions and public transportation will be key targets for the new policy, the notice said. The subsidy standards will be rated following basic price differences between new-energy automobiles and their traditional counterparts, but will decrease each year due to scale of production and technological progress. Central financial authorities will also reward pilot cities with subsidies in proportion to their investment in building charging equipment. The key target



regions will be mega-cities or city clusters, as they are under heavy pressure to save energy and cut emissions, for example the Beijing-Tianjin-Hebei cluster, the Yangtze River Delta area and the Pearl River Delta region. Previously, subsidies just went to pilot cities. The notice was jointly issued by the MOF, the Ministry of Science and Technology, the Ministry of Industry and Information Technology and the National Development and Reform Commission. To be a pilot city or cluster, they must provide plans on how they will promote new-energy vehicles and apply to the four departments. (source: [China Daily](#))

China to build 4,500-meter manned submersible

Chinese scientists have launched a program to build a new manned submersible expected to dive as deep as 4,500 meters and capable of carrying out scientific research on a majority of the earth's seabeds. The program was revealed by Hu Zhen with China Shipbuilding Industry Corporation, who is in charge of the technology development of the submersible program under the Ministry of Science and Technology, in an interview on board the Xiangyanghong 09, carrier boat of the Jiaolong submersible. The Jiaolong has dived successfully to a depth of 7,062 meters, ranking China among the world's most advanced countries in the deep-sea submersible field. Upon completing overall maintenance of the Jiaolong, Hu and his colleagues are scheduled to undertake study on developing a second deep-sea diving vehicle for the country's seabed research. The country's first submersible, Jiaolong, has successfully carried out 73 deep-sea dives so far, Hu said, noting that its operations have become easier over time as the submersible has grown more reliable and stable. The Jiaolong will soon be handed over to the China Ocean Mineral Resources Research and Development Association, and at that time study will focus on key technologies involved in the 4,500-meter submersible, the scientist told Xinhua. (source: [Global Times](#))

Green autos to get boost

China's efforts to curb air pollution will boost the development of the new energy auto industry, but the country still faces difficulties in being able to meet its target of selling 500,000 green vehicles per year by 2015, experts said Thursday. New energy autos, which includes plug-in hybrid and electric vehicles, should account for more than 60 percent of new buses added annually in major cities such as Beijing, Shanghai and Guangzhou, according to an action plan on combating airborne pollution unveiled Thursday on the central government's website. The plan states that the public transport and environmental sanitation sectors and government institutions should first adopt new energy vehicles. A batch of measures such as fiscal subsidies and exemptions from car plate lotteries should be adopted to encourage private purchases of green vehicles, the plan said. The measures are part of China's efforts to reduce carbon dioxide emissions, and will also boost the development of the new energy vehicle industry, experts said. Experts said a lack of core technology and local protectionism are two major obstacles that have hindered



the nation in achieving its target of producing and selling 500,000 electric and plug-in hybrid vehicles annually by 2015. (source: [Global Times](#))

China develops new generation of high-speed aircraft

China is developing helicopters with the ability to fly at speeds twice the current average, according to the country's major aircraft maker. Lin Zuoming, chairman of Aviation Industry Corp of China, said the company is developing new-generation helicopters that can travel up to 500 kilometers an hour. "We have been keeping pace with other countries in the research and development of ultrafast helicopters," he added. Lin was speaking after models of several new-concept helicopters were presented at the Second China Helicopter Expo, which concluded in Tianjin on Sunday. His company produces a wide range of helicopters, from ultra-light models to heavy-lift helicopters. (source: [China Daily](#))

Beijing intends to cooperate with foreign firms in R&D

China is promoting cooperation with foreign countries in helicopter research and development, an executive from the national aircraft manufacturer said. "The government has been negotiating with Russia on cooperating in heavy-lift helicopter development since 2009," said Cai Yi, general manager of Avicopter, a subsidiary of the Aviation Industry Corp of China. Cai made his remarks during the four-day Second China Helicopter Expo, which concluded in Tianjin on Sunday. "We are looking forward to deepening cooperation with Russia and other nations that have advanced technologies in the civil helicopter sector," he added. Though details on the Sino-Russian cooperation have not been finalized, Avicopter designers have begun to create a vision for it. (source: [China Daily](#))

China seeks to fill gap in civil aviation sector

Helicopters represent a massive growth area for China's civil aviation sector, and the national aircraft manufacturer is ready to tap into this neglected market, according to industry insiders. There are about 30,000 helicopters in use around the world, most of them in the civil sector, said Xiao Zhiyuan, publisher of World Flight magazine. "However, the number of civil helicopters registered in China is only about 200, even less than that of the Brazilian city of Sao Paulo," he said. "In contrast, the United States has more than 10,000 civil helicopters and Russia boasts of 3,000." The shortage of helicopters for civilian use has become a prominent issue in China since the country was hit by a succession of natural disasters starting in 2008, when a devastating magnitude-8 earthquake struck Sichuan province. "Ninety-nine helicopters took part in rescue operations for the Sichuan earthquake, and nearly 70 percent of them were sent by the military. The lack of civil helicopters has since then attracted attention from authorities and the public," Xiao said, noting that the government later requested the establishment of a national aviation emergency response and



rescue system that mainly uses civil helicopters. The promotion of civil helicopters has since been substantially accelerated, with the government giving more investment and favorable policies to support the industry, he added. (source: [China Daily](#))

China's latest unmanned helicopter makes debut

China's latest-concept unmanned helicopter, JY-8, made its debut on Thursday at the Second China Helicopter Exposition in the northern city of Tianjin. The helicopter, which does not feature a tail rotor, can reach a maximum speed of 400 km per hour. It is expected to be subjected to trials in 2015, said Zhu Yinchui, an engineer with the China Helicopter Research and Development Institute. The coaxial double-rotor JY-8 adopts similar high-speed technologies as the X2, an experimental helicopter developed by US aircraft manufacturer Sikorsky Aircraft. China has mastered the core technologies of unmanned helicopters, and has started serialized production, said Fang Yonghong, who is in charge of the research of unmanned helicopter technologies with the Aviation Industry Corporation of China. (source: [Global Times](#))

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Socioeconomic sciences & the humanities, archaeology & paleontology

Fish fossil shows 'prototype' human face

Scientists say a 419-million-year-old fossilized fish may be the oldest known creature with a modern type of jaw, and the discovery may mark the first time the complete set of human face bones have appeared in the evolutionary history. Previous fossil records traced human's opposing jaws to the class of bony fish, but the discovery of *Entelognathus primordialis* in China's Yunnan Province suggests the bones emerged earlier in the now extinct group of placoderms, according to a paper on Thursday's issue of the journal *Nature*. The article's first author, Zhu Min of the Institute of Vertebrate Paleontology and Paleoanthropology at the Chinese Academy of Sciences, describes the fish as measuring about 20 cm, with the placoderms' signature body armor but with the jaw of a bony fish. "It suggests the fish is near the top of the placoderm class, when some members of the class began to develop features of the bony fish, including its jaw," Zhu said. (source: [Global Times](#))

Li Junru: Chinese dream is human rights dream

The Chinese dream is a human rights dream for the Chinese people, according to Li Junru, vice president of the China Society for Human Rights Studies and former vice-president of the Party School of the Central Committee of the CPC. Li's remarks came at the 6th Beijing Forum on Human Rights which was held



from Sept. 12 to 13 2013. More than 100 experts and officials from 33 countries and international organizations attended the annual event. Li noted that the dream of the Chinese nation is the Chinese people's dream of national dignity, which requires human rights. History has proven that without national dignity, no individual can have personal dignity. And a country will not earn the respect of the rest of the world if it doesn't safeguard its citizens' human rights. According to Li, China has had a bitter history. In order to revive the nation, we need to ensure the people enjoy a decent, dignified life. It is not only about the dignity of the country, but also of every individual Chinese citizen. Chinese President Xi Jinping once pointed out that the great renaissance of the Chinese nation is the greatest dream for the Chinese nation in modern history, and the Chinese dream is the dream of the people. The rights to subsistence and development are the principle human rights. These rights can only be safeguarded for China's 1.3 billion population when the country becomes prosperous, democratic, civilized and harmonious. "The Chinese dream is a human rights dream combing social improvement and economic development while safeguarding the Chinese people's rights to subsistence and development," Li concluded. (source: [China.org](#))

How to cope with an aging society

As those of the post-1980 generation become the main breadwinners in China, one of the biggest questions is how the country will be able to support old people, who account for an ever growing proportion of the population. Astrid Krag, the Danish Health Minister, says many other countries including hers face a similar challenge but that it presents an opportunity for China and Denmark to help one another. "China is so big, while Denmark is so small," Krag says. "But we face the same core challenge from the aging society. In Denmark we have had some experience dealing with the issue, which China can borrow from. China can start from where we are now, and avoid the mistakes we have made." On her first visit to China, beginning in late August, Krag, 31, led a business delegation, including managers, academics and personnel in healthcare, to Beijing to seek "even stronger cooperation" in the field with China. Meeting Krag, Wang Pei'an, vice-minister of the National Health and Family Planning Commission, says the Chinese aged-care system faces stiff challenges. "As the country with the most aged population, China is turning older before getting wealthier," Wang says. "There are many disabled elderly and empty nesters, and a high proportion of the poor are older people." More than 194 million Chinese citizens were aged 60 and above last year, accounting for 14.3 percent of the population. The figure will reach 300 million by 2025, the Ministry of Civil Affairs says. (source: [Xinhua net](#))

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Space

Astronauts may serve half-year missions on new space station

Astronauts will visit China's future space station once or twice a year, a senior official said on Friday. Wu Ping, spokeswoman for China's manned space program, said at the 64th International Astronautical Congress that the space station will be completed around 2022. The annual conference is one of the most important events in the space calendar, which was held in Beijing this year from Monday to Friday. "During the operational phase of the mission, the space station will be manned by a crew of three astronauts, who will alternate every half-year," Wu said. To maintain the station's operation, cargo spaceships will resupply the station once or twice a year, Wu said. The cargo spaceship will be completed and launched to conduct propellant refilling tests by 2016, Wu said. (source: [China Daily](#))

China launches new weather satellite

China successfully launched a meteorological satellite into orbit at 11:07 am Monday (23 September), Taiyuan Satellite Launch Center said. The third Fengyun-III satellite, carried by a Long March-4C carrier rocket, will join the previous two which are in orbit to boost China's weather monitoring capabilities. The three Fengyun-III weather satellites, the country's second generation polar orbiting meteorological satellites, are useful in monitoring natural disasters and the eco-environment. They also provide meteorological information for global climate change studies as well as aviation and navigation. The network of satellites will also shorten the updating hours of medium-range weather forecasting from 12 to six. The first and second Fengyun-III were launched in May 2008 and November 2010 respectively. This marks the 181st launch carried by a Long March rocket, according to the center. (source: [China Daily](#))

China expects to complete space station by 2023

China will complete its first space station within 10 years and be able to send crews of up to six people for short-term missions, according to the 64th International Astronautical Congress. At the congress, which has been held annually since 1950, China released a host of details about its space station to around 3,600 delegates from all over the world. "Room in the station will be no less than 60 square meters, which is enough for astronauts to move freely," said Xu Dazhe, general manager of China Aerospace Science and Technology Corp, at the five-day event that began on Monday in Beijing. He said the station will also be able to support three astronauts on long-term missions. China Aerospace Science and Technology Corp is the main contractor for the Chinese space program. (source: [China Daily](#))

China to launch satellite in search of dark matter



China's top scientific research institute is in the process of developing five space research satellites, including one for the detection of dark matter particles. "We expect to launch at least three to four of them before 2015," said Bai Chunli, president of the Chinese Academy of Sciences (CAS) at the first meeting of the academy's newly founded advisory committee in Beijing Tuesday. The other four satellites include one for the conduct of quantum science experiments, an X ray telescope, a retrievable scientific study satellite and a solar activity study satellite, Bai said. (source: [China Daily](#))

China unveils its first and unnamed moon rover

Chinese scientists described the country's first moon rover on Wednesday and invited the global public to come up with a name for it. Zhao Xiaojin, director of the aerospace department of the China Aerospace Science and Technology Corporation, depicted the lunar rover an orbiter adaptable to harsh environments; a highly efficient and integrated robot; and a high altitude "patrolman" carrying the dreams of Asia. The Chang'e-3 mission to moon, named after a Chinese lunar goddess, will take place in December, when a Chinese spacecraft will soft-land on a celestial body for the first time. (source: [Global Times](#))

Mission to moon will boost research and awareness

China could take advantage of its Chang'e-3 lunar exploration mission to boost international cooperation on space exploration and promote space education and awareness among the public, a leading expert from the United States said on Sunday. Speaking on the sidelines of a Galaxy Forum workshop held in Beijing, Steve Durst, founding director of the International Lunar Observatory Association, said the sharing of imaging technologies would be key to such exchanges. "We will use the ultraviolet lunar telescope aboard the Chang'e-3 to conduct astronomical imaging for educational purposes," he said, "and with an exchange in kind, researchers from China National Space Administration and National Astronomical Observatories of Chinese Academy of Sciences can use the ILO-X and ILO-1 instruments in 2015." The ILO-X and ILO-1 are lunar telescopes that will go to the moon with a privately sponsored lunar lander in 2015, according to Durst, who initiated the Galaxy Forum events in 2008 to advance public awareness of space, particularly among students. He said the cooperative project between the association and the China National Space Administration will enable astronomers to observe the central part of the Milky Way galaxy for the first time. (source: [China Daily](#))

China to help train foreign astronauts

China will help other countries select and train astronauts to enhance technological exchanges, a senior aerospace official said on Monday. Wang Zhaoyao, director of China Manned Space Engineering Office (CMSEO), said at a seminar in Beijing that China plans to boost cooperation with other countries



in the selection and training of astronauts, the China News Service reported. The foreign astronauts will fly together with Chinese astronauts in joint training programs, he added. Yang Liwei, China's first astronaut and also deputy director of the CMSEO, said at the seminar that China will establish a manned space station within 10 years, according to the report. (source: [China Daily](#))

China's space station to open for foreign peers

Yang, China's first astronaut, who went into space in 2003, said many countries submitted proposals to the Chinese government during the development of the space station, hoping China would help train their astronauts and then send them to the station to conduct scientific experiments. Yang made the remarks during the five-day United Nations/China Workshop on Human Space Technology, which opened in Beijing on Monday (16 September). A total of 150 participants from more than 20 nations and regions attended the conference. China has been involved in a host of cooperative projects with other nations, according to Yang. China and Russia have collaborated on astronaut training, spacecraft technology and extra-vehicular suits, and we are cooperating with our French counterparts on a variety of experiments in astrobiology and space medicine," he said, adding that Chinese and German scientists also performed astrobiological experiments during the unmanned Shenzhou VIII mission in 2011. Astronauts from the European Space Agency and their Chinese peers have visited each other's training facilities, laying a solid foundation for further communication. If China starts taking foreign astronauts to outer space, we would like to be the first candidate," said Ahmed Bilal, chairman of the Pakistan Space and Upper Atmosphere Research Commission. Folk Horheck, an astrobiologist from Germany, said the event enables people like him whose work deals with space to learn more about China's astronautic and space research. (source: [China Daily](#))

Magnetic Reconnection: General Mechanism of the Whistler-mode Waves Revealed

Recently, based on the Cluster spacecrafts observations, WEI Xinhua from State Key Lab of Space Weather, National Space Science Center (NSSC), etc, revealed the generation mechanism of the whistler-mode waves in the plasma sheet prior to magnetic reconnection. Theoretic analysis shows that the electrons with positive temperature anisotropy can excite the whistler-mode waves via cyclotron resonances. Using the data of particles and magnetic field, the international research group consisted of Chinese, Czech, France, and UK scientists, estimated the whistler-mode wave growth rate and the ratio of whistler-mode growth rate to wave frequency. They are $0.0016f_{ce}$ (Electron cyclotron frequency) and $0.0086f_{ce}$, respectively. Therefore, the whistler-mode waves can grow quickly in the current sheet. The combined observations of energetic electron beams and waves show that after the southward turning of magnetic field, energetic electrons in the reconnection process are accelerated by the whistler-mode waves. (source: [CAS](#))



Moon landing mission to use 'secret weapons'

Multiple "secret weapons" will be used on China's Chang'e-3 lunar probe, scheduled to launch at the end of this year for a moon landing mission, a key scientist said on Wednesday. The mission will see a Chinese orbiter soft-land on a celestial body for the first time. In addition to several cameras, Chang'e-3 will carry a near-ultraviolet astronomical telescope to observe stars, the galaxy and the universe from the moon, said Ouyang Ziyuan, a senior advisor to China's lunar program. The telescope will observe the universe "farther and clearer" and will possibly bring new discoveries since there will be no disturbance from the atmosphere, ionosphere and magnetosphere on the moon, offering views free from interference from human activity, pollution and the magnetic field, said Ouyang. (source: [China Daily](#))

Long March 4C rocket lifts off in Jiuquan, NW China

A Long March-4C carrier rocket carrying the Yaogan XVII remote-sensing satellite blasts off from the launch pad at the Jiuquan Satellite Launch Center in Jiuquan, northwest China's Gansu Province, Sept. 2, 2013. The satellite will be used to conduct scientific experiments, carry out land surveys, monitor crop yields and aid in reducing and preventing natural disasters. (Xinhua/Li Ziheng) (source: [Global Times](#))

China delivers control of satellite to Venezuela

China has delivered full control of the Chinese-built Miranda satellite over to Venezuela, Venezuelan Minister of Science and Technology Manuel Fernandez announced Monday at an official event. At the transfer ceremony held at the Manuel Rios Aerospace Base (Bamari) in El Sombrero in the central state of Guarico, Fernandez said 54 Venezuelan professionals will be in charge of operating his country's second satellite, VRSS-1. It was launched into orbit from China on Sept. 28, 2012 at a cost of 140 million US dollars. Actually, the remote-controlled satellite has been operated by Venezuelan experts since January from a location in China, he said. The satellite allows authorities to take complete inventory of Venezuelan territory, with precise information on strategic sites, including security and defense sites, mining and oil infrastructure, agriculture, food, health and environment, said the minister. (source: [Global Times](#))

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People & Higher Education

University Increasingly Attracts Returning Talent



A decade ago, most graduates of the University of Science and Technology of China tended to study abroad and settle in the United States. But today an increasing number of outstanding professors and experts are opting to return from overseas to work and live in China. And USTC is a top choice. One of the premier universities in China, USTC was established in Beijing in 1958 by the Chinese Academy of Sciences and was relocated to Hefei, Anhui province, in 1970. Ranked 49th in the 2011 Times Higher Education list of the world's top universities, the school has a tradition of hiring faculty and administration who have returned from overseas. It is currently recruiting professionals from China and abroad as well as organizing regular recruitment and exchange trips to other countries. With the help of some national plans to attract top professionals from around the world, USTC has drawn some 300 experts from overseas since 2009. Now, more than 24 percent of the faculty members are returnees, a level much higher than the national average. "Talented people are a treasure to us, and we welcome them no matter where they are from," said Hou Jianguo, president of the university, on a trip to the US in 2010, adding that USTC aims to be a world-class research university by welcoming more communication and cooperation with US scholars. (source: [CAS](#))

UCAS International College Holds Its First Opening Ceremony

The International College of the University of Chinese Academy of Sciences (UCAS) welcomed its first batch of international students for the 2013-2014 academic year at its opening ceremony held in Beijing on September 11, 2013. Academician WU Yueliang extended warm welcome and hearty congratulations to the international students. He introduced the background, mission and the future aims of the International College, and also encouraged the international students to cherish their time at UCAS and to be active in study and creative in thinking. This year, the International College has admitted 112 graduate students from developing countries as recipients of the 2013 CAS-TWAS President's Fellowship. Altogether there are nearly 200 graduate students from 42 countries pursuing master or doctoral degrees at UCAS in the 2013-2014 academic year. (source: [CAS](#))

Stricter scrutiny for Sino-foreign joint education

Chinese educational authorities will tighten scrutiny on Chinese-foreign joint education to address problems caused by for-profit, low-quality "overseas study preparatory classes." Many Chinese senior high schools offer expensive "international classes" in cooperation with foreign educational institutions, many of them without approval from Chinese authorities, Sheng Jianxue, deputy director of the [Ministry of Education's](#) international cooperation and exchanges department, said at a press conference on Thursday. Only 90 senior high schools with Sino-foreign cooperative classes have been examined and approved by local authorities, he said. (source: [Global Times](#))



Fewer Chinese students apply to US graduate schools: report

Fewer Chinese students applied to US graduate schools for the 2012-13 academic year, but more were accepted than the previous year, according to a report. The number of applications from Chinese students declined by 3 percent, while admission offers to prospective Chinese students grew by 5 percent, with 40 percent of all admission offers going to Chinese students, according to the Council of Graduate Schools. (source: [People Daily](#))

China honors 50 foreign experts

The Chinese government on Sunday honored 50 foreign experts from 20 countries for their contributions to China's development. "The foreign experts are intimate friends of the Chinese people, envoys for China's international communication and important force for China's development. The Chinese people will remember their contribution to China's development forever," said Vice Premier Ma Kai at the annual "Friendship Award" ceremony held at the Great Hall of the People. Congratulating all honored experts, Ma said China will adopt more open policies to attract overseas talent and create good environment for their work in China. The "Friendship Award" is an annual award issued by the Chinese government to honor outstanding foreign experts in China. The Friendship Award scheme was established in 1991. (source: [Xinhua net](#))

Six scientists awarded Shaw Prize in Hong Kong

A presentation ceremony of the annual Shaw Prize was held Monday evening in Hong Kong, with six scientists commended for their prominent work in astronomy, life science and medicine, and mathematical science. Hong Kong Chief Executive C. Y. Leung presented the awards to the six laureates at the Hong Kong Convention and Exhibition Center. Each prize bears a monetary award of 1 million US dollars. The Shaw Prize in Astronomy was awarded in equal shares to Steven A. Balbus, Savilian professor of Astronomy, University of Oxford, UK and John F Hawley, associate dean for the sciences and VITA professor and chair of Department of Astronomy, University of Virginia, USA for their discovery and study of the magnetorotational instability. The Shaw Prize in Life Science and Medicine went to Jeffrey C. Hall, professor emeritus of Brandeis University, Michael Rosbash, professor of biology and investigator of HHMI at Brandeis University, and Michael W. Young, vice president for academic affairs and professor at Rockefeller University for their discovery of molecular mechanisms underlying circadian rhythms. The Shaw Prize in Mathematical Sciences is awarded to David L. Donoho, Anne T. and Robert M. Bass professor of the humanities and sciences, and professor of statistics at Stanford University, USA for his profound contributions to modern mathematical statistics and in particular the development of optimal algorithms for statistical estimation in the presence of noise and of efficient techniques for sparse representation and recovery in large data- sets. Established in 2002 under the auspices of Run Run Shaw, Hong Kong's famous industrialist, the Shaw Prize



consists of three annual prizes of astronomy, life science and medicine, and mathematical science. The prize honors individuals who have achieved significant breakthrough in academic and scientific research or application and whose work has a positive and profound impact on the mankind. There have been altogether 48 laureates since the first Shaw Prize Awarding Ceremony took place in 2004. (source: [Global Times](#))

Scientists honored with biosphere protection award

The Chinese National Committee of Man and Biosphere (MAB) Program on Sunday awarded prizes to four foreigners and one Chinese for their contributions to the country's biological diversity protection. This is the first prize of its kind granted by the think tank affiliated to the Chinese Academy of Sciences since its establishment in 1978. The winners are Natarajan Ishwaran, visiting professor with the International Center on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO, Thomas Schaaf, former director of the Division of Ecological and Earth Sciences of UNESCO, Neronov Valery Mikhailovich, deputy chair of the Russian MAB Committee, Chung-II Choi, former chair of the UNESCO/MAB Program International Coordinating Council, and Li Wenhua, an academician of the Chinese Academy of Engineering and International Academy of Sciences. (source: [China.org](#))

Researchers Honored for International Collaborative Work

Six pairs of researchers received the 2012 CAS International Cooperation Award for Young Scientists at a ceremony on Aug. 30 in Beijing. The award, which was launched in 2011, honors young international scientists and their CAS collaborators for innovative research undertaken through the academy. This year's winners include: Dr. XU Hongxing and Dr. Ulf Håkanson (Sweden), who began collaborating on nanophotonics and nanoelectronics in 2007; Dr. XU Ke and Dr. Dmitrii Zherebtsov (Russia), who have cooperated on developing equipment and processes for the bulk growth of gallium nitride (GaN) crystals; Dr. YANG Yungui and Dr. Jannie Danielsen (Denmark), who have conducted research on how RNA epigenetic control and DNA repair act in concert to maintain genomic structure and stability; Dr. WANG Tieyu and Dr. Khim Jong Seong (Republic of Korea), who have cooperated since 2007 on researching pollutants in and around the Yellow Sea and Bohai Gulf; Dr. LIN Ribai and Dr. Joseph P. Botting (UK), who have studied the evolution of early sponges and provided new insights on the Ordovician radiation of marine life; and Dr. SHI Xun and Dr. G. Jeffrey Snyder (USA), who have collaborated on the study of novel thermoelectric materials. (source: [CAS](#))

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Research infrastructures

Beijing opens high-tech zone

China opened one of the world's largest high-tech industrial zones in Beijing on Friday. The Ministry of Science and Technology and the Beijing government began planning the so-called technology transfer zone last year to attract domestic and overseas companies. On Friday, the two announced the opening of the center, predicting that it will become "the largest technology transfer zone". "I hope Zhongguancun becomes the largest, with a targeted yearly trading volume at \$100 billion," said Cao Jianlin, the vice-minister of science and technology, at the opening ceremony on Friday. Zhongguancun has been a high-tech hub in Beijing since the 1980s. "And I also hope the largest technology market helps us become more and more competitive worldwide," he said. Thus far, a public service platform named China International Technology Transfer Center, established in March 2012, has attracted 49 high-tech companies from China and abroad, including several from the United States, Britain and Canada. (source: [China Daily](#))

Waveguide System for Swedish MAX IV Project Delivered

After one year and a half, scientists of the Institute For High Energy Physics (IHEP) recently finished and delivered over 200 accelerator components for the waveguide system at MAX IV Project to Lund University in Sweden, which marked that IHEP accelerator components landed in northern Europe for the first time. In 2011, IHEP was appointed as the official supplier of the components in microwave and vacuum system of the MAX IV Project. In 2012, MAX-lab at Lund University announced that IHEP won the bid for the waveguide system of the MAX IV Project over another four internationally-renowned microwave companies. This time, the delivered microwave components include high power waveguide phase shifter and attenuator, high power ceramic window and SiC load, which were all developed from the microwave components at BEPCII. MAX IV will be the next generation synchrotron radiation facility in Sweden. It will replace the existing laboratory consisting of the MAX I, II and III storage rings. The main sources at MAX IV are two storage rings (1.5 GeV and 3 GeV) with state-of-the-art low emittance for the production of soft and hard x-rays. The linac injector will provide short pulses to a short pulse facility. This solution allows the production of synchrotron radiation with optimal characteristics in a wide energy region, fulfilling the needs of the most diverse research areas. (source: [CAS](#))

China Launches Applicable Deep UV Laser Device

A deep ultraviolet (DUV) solid-state laser device, invented by the Chinese Academy of Sciences (CAS), has recently passed testing, making China the only country in possession of such technology. "This is a successful example of China independently developing a sophisticated instrument," said the panel



which acknowledged the achievement on September 6. CAS President Bai Chunli said the success embodies the academy's "dedication to major innovation and breakthrough in seeking development." (source: [CAS](#))

Jiaolong finishes last scientific dive this year

China's manned submersible "Jiaolong" has finished this year's last scientific dive over a seamount in the western Pacific Ocean. This is its fifth dive in the western Pacific Ocean this year. After a nine hours scientific dive on Monday, "Jiaolong" returned to Jiangyin City in east China's Jiangsu Province with its support ship, the Xiangyanghong-09. "Jiaolong" made the last descent of 2,400 meters underwater, which is the height of halfway of the seamount, known as Caiqi Guyot. It brought back underwater creatures and cobalt-rich crust, which will be used for further scientific experiments. Liu Feng, chief commander of the mission, said the success of the dive, confirmed the submersible's capabilities, the experienced crew members and supported China's further underwater research by collecting a rich amount of sea bed dwellers. (source: [Global Times](#))

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International S&T relations

Israeli, Chinese research institutes to launch tech cooperation

Haifa-based Technion Institute of Technology and China's Shantou University will establish a new tech institute in China after receiving a hefty donation from a Chinese foundation, according to Israeli media. The Li Ka-shing Foundation has given the joint academic venture 130 million U.S. dollars to set up a technological institute, the Technion Guangdong Institute of Technology, in Guangdong province in southern China. A memorandum of understanding was signed on Sunday between President of the Technion Institute of Technology Peretz Lavie and Dean of Shantou University Gu Peihua. The new facility in China will focus on life sciences, technology as well as civil and environmental engineering and computer science. (source: [Xinhua net](#))

SIMM, Servier Seal License Agreement for Lucitanib Development in China

Servier sealed a collaboration and license agreement with the Shanghai Institute of Materia Medica, Chinese Academy of Sciences (SIMM) for the development of lucitanib in China, a promising targeted antitumor drug with antiangiogenic effects on September 13, 2013. The aim of the present agreement between SIMM and Servier is to provide evidence of the clinical



benefits of lucitanib in specific Chinese indications through national clinical studies involving Haihe Pharmaceuticals, a local pharmaceutical company created by SIMM. SIMM will conduct specific research in biomarkers and support Servier regarding the participation of China in international clinical studies. Under the terms of this agreement, SIMM and Servier will be co-owners of the marketing authorizations for China. (source: [CAS](#))

China and UK to up science collaboration

National science academies in China and the UK published a joint statement for further cooperation on Friday. Royal Society President Paul Nurse visited [Beijing](#) in September. To encourage Chinese and Britain scientists to strengthen their cooperation, the Chinese Academy of Sciences and the Royal Society took the occasion as an opportunity to publish the statement. As scientific nations, committed to fostering world leading research, China and the UK are ideally placed to collaborate closely on scientific issues, to share ideas, skills, resources and practices — and to both work together and learn from each other in applying knowledge-based innovations to our economies and societies, the statement said. The world is facing challenges such as a growing population, energy exhaustion and pollution, for which science may provide solutions, so there is a need to increase China-UK cooperation. The Chinese Academy of Sciences and Royal Society have already experienced 30 years of cooperation. CAS President Bai Chunli said both sides had benefited from the cooperation, so CAS was willing for more comprehensive communication and cooperation at a higher level. (source: [China Daily](#))

CAS President Highlights TWAS Achievements, CAS Support

CAS President BAI Chunli highlighted contributions by The World Academy of Sciences (TWAS) to sustainability in the developing world during a Tuesday ceremony in Beijing celebrating the 30th anniversary of TWAS's founding. BAI is also president of TWAS. BAI, who became the first Chinese president of TWAS in January, also outlined CAS's strong support for the organization. After noting TWAS's past achievements, BAI said he hoped TWAS would become a world-leading academic institution playing an important role in shaping the scientific agenda of the developing world within the next decade. He also said he hoped TWAS would continue to promote sustainability and capacity-building in developing countries. In addition, BAI called for a "new strategy" to respond to the changing world, saying it is necessary to find "science-based solutions to social and economic challenges faced by developing countries." (source: [CAS](#))

GIEC Signs MOU with Pakistan Universities to Enhance Scientific Cooperation

Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences (GIEC) signed a Memorandum of Understanding (MOU) with the University of Agriculture Faisalabad, Pakistan (UAF) and the University of Engineering &



Technology Lahore, Pakistan (UET) in Lahore on August 29, 2013 to enhance scientific cooperation and the exchange of scientists, young scholars and technicians between the two sides. According to the MOU, both sides agree to collaborate in various research areas of bilateral interests in the field of energy, especially in bio-fuel, generating power from municipal solid waste, solar energy, and geothermal energy. Moreover, both sides will share their expertise by encouraging exchange of scientific personnel, including senior scientists, technical staffs and PhD students. (source: [CAS](#))

Shanghai gets tips on innovation

Six officials from Shanghai's Pudong New Area, where a much-anticipated free-trade zone will be located, have completed a training course in Singapore aimed at honing their skills in innovation, as they set about creating landmark attractions in the zone. The officials have been working on establishing major projects, such as Disneyland and the 2010 Shanghai World Expo garden, and took temporary posts in Singapore from December to March to gain experience in economic innovation, urban planning and tourism development. (source: [China Daily](#))

China, Turkmenistan agree to promote energy cooperation

China and Turkmenistan pledged Tuesday to promote bilateral energy cooperation and push forward their natural gas pipeline project. The two sides made the pledge in a joint declaration issued following talks between visiting Chinese President Xi Jinping and his Turkmenian counterpart, Gurbanguly Berdymukhamedov. In the document, the two sides agreed to take measures to guarantee a safe and stable operation of Line A and Line B of the Turkmenistan-China natural gas pipeline, as well as a sound implementation of their natural gas project on the right bank of Amu Darya, a major river in Central Asia. Meanwhile, they vowed to work together to complete the construction of Line C and make it ready for gas transmission at an early date, and to make sure that Line D will be completed and ready for gas transmission in 2016. Eventually, according to the document, they will achieve the target of transmitting 65 billion cubic meters of natural gas annually. (source: [Global Times](#))

Myanmar ministry, Chinese company sign MoU on Clean Development Management project

Myanmar Ministry of Environmental Conservation and Forestry (MOECA) and China's Sunshine Kaidi New Energy Group Co., Ltd of China on Monday signed a memorandum of understanding (MoU) on Clean Development Management project. At the signing ceremony held in Nay Pyi Taw, the MoU was inked by U Tin Tun, director general of Planning and Statistics Department of MOECA and Tao Zepu, head of Carbon Division of Sunshine Kaidi New Energy Group Co., Ltd. U Tin Tun said in his speech that the MoU is the first step of initiative



between his department and Kaidi on Clean Development Mechanism (CDM) consultancy service and it is intended to cooperate with each other to develop CDM market and to contribute to Sustainable development in Myanmar. The Scope of cooperation under this MoU includes the following activities: CDM advocacy and public awareness raising, analysis of sectoral CDM potential of Myanmar, identification of CDM projects, finance of transaction fees and develop CDM projects, CDM rules and regulations-technical aspect, he added. The objectives of the MoU is to collaborate with each other serving the utility goal of developing CDM market in Myanmar. Tao Zepu said that this MoU will also enhance the cooperation between China and Myanmar in environmental conservation area. (source: [Xinhua net](#))

Technology transfer is a focus

China and the Association of Southeast Asian Nations have taken substantial steps to make technology transfer the next focal point for future economic cooperation, Wan Gang, minister of science and technology, said on Tuesday. A series of policies and infrastructure incentives have been proposed by China as fine-tuning measures to consolidate the China-ASEAN Technology Transfer Center, which was unveiled at the 10th China-ASEAN Expo. These measures include the establishment of a center for science and technology policy coordination, joint science and technology parks, and a bilateral agricultural-technology cooperation network, Wan said during the forum on China-ASEAN Technology Transfer and Collaborative Innovation. Some 20 projects on high-tech cooperation were signed during the conference, spanning a wide range from renewable energy, agriculture technology, resource exploration and mobile payments. (source: [China Daily](#))

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