

EURAXESS LINKS CHINA

Dear colleagues,

Welcome to the May 2014 edition of the **EURAXESS Links China Newsletter**.

This month's **EU Insight** takes a closer look at 'U-Multirank', an interactive tool for university rankings developed by European institutions and funded by the European Commission. By adopting a new approach, this new tool might well provide an interesting alternative to the existing rankings and their abundantly-commented shortcomings.

We have had the honour to meet the distinguished **French mathematician and President of the European Research Council (ERC) Professor Jean-Pierre Bourguignon** at the occasion of the Annual Meeting of the Global Research Council in Beijing 26 - 28 May. We talked about the ERC mission, about the future plans and visions related to it, about the relevance of the ERC to Chinese researchers and about possible developments in China. We also touched upon the Professor's extensive personal research experience in the country, spanning over four decades.

A major announcement in this edition of the newsletter regarding EURAXESS activities, is the launch of our **2014 EURAXESS Science Slam China** competition. Last year's Slam Finals were a great event and the interest in this science communication competition has only been increasing since then. Now that the competition is open, we hope to receive many application videos from researchers of all nationalities, all fields and all ages! See all details under the **EURAXESS Activities** section.

In the same section we also report on the 'Researchers' Nights' we organized with several partners over the past month in Beijing and Shanghai. In both cities



the researchers' response to the concept of informal and friendly networking has been excellent and we already look forward to organizing the next editions.

Another kind of event gathering China-based international and European researchers and innovators took place in Shanghai end of May at the China-Europe International Business School (CEIBS). President Xi Jinping himself showed great interest in the views and suggestions of the participants about how to improve China's talent and innovation policies. You can read more about this special occasion in our **News & Developments** section.

The **Grants & Fellowships** as well as the **Jobs** sections feature calls targeting a variety of research profiles. Hopefully there will be some of relevance to you. In any case, we are happy to announce that the long-awaited second edition of our Funding Guide, first released in December 2011, is well under way and should be made available during the month of June. Our intention is to keep this new edition regularly updated so as to provide a useful and always ready-to-use tool for researchers active between Europe and China.

Under **Events** you will find an invitation to those researchers based in south China to attend the Xiamen, Shenzhen and Guangzhou stages of the Tour of China 2014.

We hope that you will enjoy going through this edition of the **EURAXESS Links China Newsletter** and welcome any comments, the positive and the negative, by our readership in order to improve this publication.

We wish you a pleasant read,

Jacques de Soyres

Andrea Strelcova

[EURAXESS Links China](#) Country Representatives

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 the European research landscape and in 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 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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1 EU Insight – Launch of U-Multirank



A new global university ranking tool, [U-Multirank](#), which assesses the performance of more than 850 higher education institutions worldwide, was launched by the European Commission (EC) on May 13, 2014.

With U-Multirank, the universities are tested against up to 30 separate indicators and rated in **five performance groups: teaching and learning, research, international orientation, knowledge transfer and regional engagement.**

As a multidimensional ranking tool, U-Multirank demonstrates the diversity of university profiles in the international context for the first time. It provides no composite overall scores, as the adding and weighting of scores to one overall score, leads to a loss of transparency.

The European Commissioner for Education, Culture, Multilingualism and Youth, Androulla Vassiliou said:

“We are proud of our world-class higher education, but we need many kinds of universities, catering for a wide range of needs; that means strong technical and regional universities just as much as outstanding research universities. U-Multirank highlights many excellent performers that do not show up in current, research-focused, global rankings- including more than 300 universities that have never appeared in any world ranking until now.”

Results show that while over 95% of institutions achieve an ‘A’ score on at least one measure, only 12% have more than 10 top scores. Of the 850 universities in the ranking 62% are from Europe, 17% from North America, 14% from Asia and 7% from Oceania, Latin America and Africa.

U-Multirank is a flexible learning tool for students, academics, policy-makers and administrators looking for information to support decision-making. **At this stage** it covers **four subject areas**, namely **business studies, mechanical engineering, electrical engineering and physics**. Fields of study to be included in 2015 are psychology, computer science and medicine. Another target for 2015 is also to increase the number of institutions in U-Multirank to a total of 1000-1100 universities.



The U-Multirank project receives seed funding through the European Commission's Lifelong Learning Programme (now Erasmus+) for an initial period of two years (2013-2015) totaling €2 million with the option of an extension for a further two years (2015-2017). The goal is for an independent organization to manage the ranking on a sustainable funding model thereafter.

The initiative originated at a conference under the 2008 French Presidency of the European Union, which called for a new methodology to measure the different dimensions of excellence of higher education and research institutions in Europe and in an international context. Subsequently, the EC commissioned a feasibility study on a multi-dimensional ranking in 2011.

An independent consortium led by the Centre for Higher Education (CHE) in Germany and the Center for Higher Education Policy Studies (CHEPS) in the Netherlands compiled the new ranking. Other partner organisations include the Centre for Science and Technology at Leiden University (the Netherlands), Catholic University Leuven (Belgium), academic publishers Elsevier, the Bertelsmann Foundation, the student advice organisation Push and software firm Folge 3.

To register your institution for the participation, complete registration form online at www.umultirank.org, until early autumn

Sources:

- [1] [U-Multirank website](#)
- [2] [U-Multirank May Newsletter](#)
- [3] [Q+A Memo U-Multirank](#)
- [4] [Press Release U-Multirank from the European Commission](#)
- [5] [Presentation on U-Multirank from the European Commission](#)
- [6] [Multidimensional Ranking- The Design and Development of U-Multirank](#)



2 Feature

“Meet the Researcher”: Professor Jean-Pierre Bourguignon, President of the European Research Council (ERC)



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Prof. Jean-Pierre Bourguignon is a French mathematician and the current President of the European Research Council (ERC). Previously, he worked at CNRS during his entire career, and taught at the École polytechnique near Paris for 26 years. From 1994 till 2013, he served as the Director of the *Institut des Hautes Études Scientifiques* (IHÉS), a French institute supporting advanced research in mathematics and theoretical physics with a recent opening towards theoretical biology near Paris. Working in the field of differential geometry, he received several awards. He was in particular made *Doctor Honoris Causa* by Nankai University in Tianjin in 2011. On 1 January 2014, he took up the post of ERC President.

Professor Bourguignon, you became the ERC president a couple of months ago. Is this your first trip to China in your new capacity?

In this position, yes. Otherwise it is my 33rd trip to China, including Hong Kong. The first one was in 1981. Over the years I've been to Beijing, Tianjin, Suzhou, Shanghai, Hangzhou, Guangzhou, Hong Kong, Nanjing... I am trying to learn Chinese characters although my performance declines quickly when I don't practice.

The ERC is Europe's nr.1 funding institution for cutting-edge frontier research. Could you tell us what the ERC's relationship with China among other non-European research partners is?

So far there is no ERC relationship with Chinese funding institutions as such, although we are thinking about it. On the individual level, there are currently eight ERC grantees from China. ERC is open to anybody in the world who decides to spend at least 50% of his or her time in Europe. This does not require that the person leaves her or his position in the country of origin.

Eight is not such a high number out of the total of more than 4000 ERC grantees.

The number of Chinese principal investigators is indeed low. If you consider though the number of Chinese researchers working in the team of an ERC grantee, the figures are more satisfactory as more than 500 of them are involved, either as post-doctoral fellows or doctoral students.

We are thinking of associating the ERC with China in much of the same way we have been doing with the US National Science Foundation and with its Korean counterpart. This is done by asking ERC grantees whether they think of a scientist from a non-European country that they would like to add to their team for 3-6 months. The cost of the person in Europe is born by the ERC grantees



themselves. Of course, for China, the first institution that comes to mind for such a partnership is the NSFC. We are going to discuss this matter with the NSFC delegation coming to Brussels mid-June. We should therefore have soon a better idea of what can be done. I very much hope a good solution can be found quickly.

What do you think the impact could be? What else should be done in the future to increase the number of Chinese scientists working with ERC?

When the agreement was signed with Korea, the anticipation about the total number of Korean scientists who would be asked to join ERC teams was not very large. But the actual number for the first call has been 454 – this makes 1 out of 10 ERC grantees want to have a Korean researcher join their team! It is therefore not surprising that, for the first year, the Korean agency cannot finance so many researchers, probably about fifty to start with. Next year the figure should increase. Having registered such a figure for Korea, you can imagine what could be expected for China!

The key point about ERC support is the fantastic freedom it gives to researchers. The funding is for five years; this is a considerable amount of time that gives room for being ambitious, and for developing something with real substance. It is very unfortunate but more and more researchers in the whole world are in conditions which tend to limit their horizon to short-term gains.

Increasing even further the visibility of ERC in China would pay off to both sides. One can already see that the Chinese authorities put emphasis on nominating to key positions Chinese people who spent a significant amount of time abroad. Knowing other systems and having international experience is viewed very positively, so we expect that China will also see Chinese ERC grantees with a positive eye. At the same time, in order to make exchanges more balanced, it would help to bring very good European scientists to China too. But the ERC doesn't have the power or the authority to do that.

What are the challenges ahead for the ERC in the next years and where do you see the institution going under your presidency?

The programme is very successful and won a high international reputation in just seven years, a remarkable achievement. There is no need to change much. The ERC budget is fixed for seven years under Horizon 2020, a fantastic advantage when many funding research agencies around the world are presently struggling to get their budgets intact! Certainly, the priority given to the support of young people will be kept. We will certainly try and take more into account the diversity with which research is done in different disciplines. The whole spirit of the ERC is to be in line with the needs of researchers - completely bottom-up, so that people can really express what they need and get it.



The European Research Council (ERC) was created in 2007 as the pan-European programme for frontier research. Its main goal is to encourage high quality research in Europe through individual competitive funding.

The ERC is now part of the first pillar - 'Excellent Science' - of Horizon 2020, the new EU Programme for Research and Innovation.

The total budget allocated to the ERC for the period 2014-2020 is € 13.1 billion.



What skills does a successful ERC grantee have?

We are financing people who put forward new, very ambitious projects – a project with a high risk, high gain ratio. We are not interested in receiving just extensions of what people have been doing before. This also applies to ERC grantees who want to re-apply. This is possible, but the ERC must not be some sort of a closed club where you can stay as soon as you have been once admitted.

The strategy of ERC is very easy to read. I am convinced that this is one of the good reasons why it is so successful. And it is in line with what the scientific community wanted and needed! We are making all possible efforts to assure that the people selected are excellent. This requires that the selection be made by highly competent scientists who are willing to discuss openly with colleagues of the same level. Surely, some brilliant people must have been missed and some excellent projects not funded. One must keep in mind that the selection is very tough, with an average success rate around 10%. Overall though, I haven't heard much criticism - the financing has been fair and people who got the grants really deserved the money put at their disposal to develop their vision.

Could you tell us more about your relationship with Nankai University?

Prof. Chern Shiing-Shen, certainly the most famous Chinese mathematician of the 20th century, decided, when he retired from Berkeley, to open a new institute at Nankai University where he had studied early in his career. He created an independent structure that could draw benefits from both the model of the Academia Sinica and the University system. He pressed many mathematicians from around the world to come and lecture there. At this time China was not so open, and it was a great opportunity to meet a number of Chinese mathematicians, in particular young ones. I came several times, and developed a good relation with a number of researchers there. This is probably the reason why the university gave me a Doctor Honoris Causa title. Nowadays, the Chern Institute of Mathematics is a wonderful building next to the statue of Zhou Enlai on the campus of Nankai University, and it is a place where the memory of this great mathematician, who was very supportive of young people, is kept.

Given your extensive experience, could you share with our readers your opinion on the development of research and innovation in China?

The government has launched many initiatives resulting in the creation of new structures. They want them to compete – I am sure some of them will be very successful, but it can also happen that some of them will be less successful. The vision of the Chinese government is that the next level of economic development will come from a successful junction between science and innovation. So for the moment, they are making considerable efforts to build the capacity, in both fundamental and applied research.

Before, the universities were organized by sectors inspired by the soviet system: there was a university for coal and mining, another for oil or yet another



for aeronautics, and so on. The modern organisation of universities is different because it is known that a lot of knowledge is actually transversal and can be used in several different contexts. So the system is being reorganized and special responsibilities be given from this point of view to nine leading universities. The Presidents of these Chinese universities are leading scientists who have spent time abroad, typically in their forties, fifties. I found the ones I met impressive with great ambitions for their institutions. This gives a strong impetus to the whole system.

Could you tell us more about your personal views on working in China and with Chinese researchers?

The recent changes have been tremendous. One of the consequences of the Cultural Revolution was that there was almost a generation of people who could not be trained properly. Shortly after began a period where some of the best brains were sent abroad. Some Chinese students came to study at École Polytechnique near Paris, where I taught at the time. This also gave me the opportunity of tutoring some of them. They were highly selected, but I was struck by the level of their determination.

A friend who often comes to lecture at Beijing University told me that students often come to him after class and alert him of simpler solutions than the ones he had presented himself in the lecture. This is astonishing; previously it would have been unthinkable, and actually improper, for a student to challenge, even very gently, his or her teacher. Although there have always been amazing talents; I remember a lecture I gave on the history of geometry for exceptionally gifted students at the USTC in Hefei. Students gave me drilling questions after the lecture, which was fantastic. Then a really young girl came to me, asking a very relevant question in perfect French. I was astonished, and asked my host who she was: she had just joined this special school at age 13; she had been learning French with her teacher, listening to the radio and records.

The recent change went along with the extraordinary development of the cities, universities and the equipment that used to be outdated. China is a different world now. Investments in science have been massive, not only by the central government, but also through other new instruments, like the Chinese NSFC, new universities and other schemes. And, we need not to forget the means in the hands of provincial governments. China is not just Beijing, and every province is larger than many European countries. And by putting the means together, they can succeed in doing amazing things.

Professor Bourguignon, thank you very much for your time!



3 EURAXESS Links Activities



EURAXESS Science Slam 2014 – Enter the Competition Now!

ARE YOU READY?
Join the 2nd global EURAXESS Science Slam in 2014!

Submit your video by 20 October 2014 12pm (Beijing time)

LIVE FINALS in Beijing on 6 November 2014

SLAM YOUR WAY TO EUROPE!
scienceslamchina.euraxess.org

CONTACT: Email: china@euraxess.net – LinkedIn: linkedin.euraxess.org
Facebook: www.facebook.com/chinaeuraxess – WeChat: euraxess-links-china

In 2013, researchers **from all over China** joined in the first edition of the **EURAXESS Links China Science Slam** and 6 of them took part in exciting finals in front of 200 people in Beijing. Dr. Yu Yang from Wuhan University won the contest, became China's first EURAXESS Science Slammer and embarked on a trip to Europe. You can watch a **short video of last year's finals** [here](#).

This year, EURAXESS Links China is once again looking for China's best science slammers. Five finalists will battle it out for the title of "EURAXESS Science Slammer China 2014" in the LIVE slam to be held in Beijing on 6 November 2014. The first prize is a free trip to Europe, including field visits and top communication training!

The competition is open to **researchers of all nationalities and from all fields of research currently based in China** (including Hong Kong and Macau).

Here is what you need to do to enter the competition:

Step 1: Get creative and develop an original idea to present your research project to the world: Tap dancing, singing, old-school presentation, scientific equipment - all is allowed.

Step 2: Make a max. 6-minute video of your presentation with your camera phone (or equivalent). Make sure the presentation is in English.

Step 3: Post your video on the [EURAXESS Science Slam YouKu account](#) or send us the link to your video at china@euraxess.net.

The 5 best videos will be selected by a jury at the end of October and their authors will be invited to join the live slam finals in Beijing on November 6.

Online submission of slam presentations **opened on 6th of May and will close on 20th October**. We invite all researchers currently based in China to enter this



exciting and fun competition and submit their video to be selected for the slam finals.

All details about participation terms and conditions can be found on scienceslamchina.euraxess.org. Don't miss this opportunity!



Enthusiastic crowds attend Researchers' Nights in Beijing and Shanghai

The two networking events for researchers were co-organized by EURAXESS Links China in the past month and both events were met with enthusiasm from the participants.

The Researchers' Night came to Beijing for the 3rd time on Wednesday, May 7th and was once again a huge success thanks to the 100 researchers from different fields, nationalities and backgrounds who joined us for a very friendly evening full of interesting talks and exchanges.



Above and right: Researchers' Night 3.0, Beijing

The Researchers' Night 3.0 was organized at the Bridge Café by EURAXESS Links China, the European University Center at PKU, ThinkIN China, and Understanding Science.

One week after this third edition in Beijing, the Researchers' Night made its very successful debut in Shanghai.



Held on Thursday, 15 May at the Kaiba Belgian Beer Garden, the event attracted 90 participants who enjoyed the Belgian beers and the networking opportunity until late in the evening.



Above and right: Researchers' Night Shanghai

The high turnout, the good mix of nationalities and research backgrounds among the participants, as well as the lively and friendly atmosphere call for future editions of the Researchers' Night in Shanghai as well.

The Researchers' Night Shanghai was co-organized by EURAXESS Links China, the Royal Society of Chemistry and ThinkIN China.

Many thanks to all who joined us for these events and we look forward to seeing you again at the next ones for some more great networking occasions!

Learn more about EURAXESS Links China events [here](#).



EURAXESS Links China on Social Media: Join our network on [Facebook](#), [WeChat](#) (QR code above) or [LinkedIn](#).



4 News & Developments

4.1 EU & Multilateral Cooperation



Everything you wanted to know about EU-China R&I cooperation is on the new EU Delegation to China R&I website!

The team in charge of Research & Innovation at the Delegation of the European Union to China has entirely updated and reshuffled the content of its website, offering a new source of information about EU-China research cooperation.

Information about the EU-China cooperation in research and innovation, the priority areas for cooperation, the various agreements in place, the resources available to support exchanges and collaborations, the role of European Member States, the European R&I funding programme Horizon 2020 etc., can now easily be accessed on the [homepage of the EU Delegation R&I section](http://eeas.europa.eu/delegations/china/eu_china/research_innovation/index_e.htm).

You are welcome to have a look at http://eeas.europa.eu/delegations/china/eu_china/research_innovation/index_e.htm

Commission welcomes EU Member States' approval of multi-billion euro innovation partnerships

The European Commission has welcomed the final adoption on 6th of May by EU Member States of nine public-private and public-public research partnerships worth up to €20 billion. The partnerships had already been approved by the European Parliament on 15 April. Most of the investment will go to five public-private partnerships in innovative medicines, aeronautics, bio-based industries, fuel cells and hydrogen and electronics. The decision paves the way to launch these partnerships, with first calls for projects expected on 9th July. EU Member States are expected to formally adopt related partnerships on rail transport and air traffic management (Single European Sky Air Traffic Management Research) worth an additional €2 billion in the coming weeks.

Over the next seven years, the EU's contribution of €9 billion to the package will unlock an equivalent investment from the private sector and €4 billion from Member States. The EU funding will come from [Horizon 2020](http://ec.europa.eu/horizon2020/), the European Union's new €80 billion research and innovation programme running from 2014-2020.

Source: [European Commission](http://ec.europa.eu/euraxess/)



Iceland and Norway sign up to join Horizon 2020

Iceland and Norway on Friday became the first non-EU countries to associate to Horizon 2020, the seven-year EU research and innovation programme launched in January. The decision, taken at a meeting of the European Economic Area (EEA) Joint Committee, takes effect from the beginning of Horizon 2020 allowing these two countries' researchers and companies to participate on the same basis as their counterparts in the EU. In return, the two countries will contribute financially to Horizon 2020, the biggest ever EU research and innovation programme with a budget of nearly €80 billion.

These two EEA/EFTA countries bring to Horizon 2020 and to the EU an excellent science base and clear strengths in specific fields. Norwegian scientists are addressing global challenges in areas such as the environment, climate change, oceans, food safety and energy research. Iceland has unique knowledge about geothermal energy production and its research capacities on climate change and marine biodiversity will also benefit Europe.

Norway has been associated to EU research and innovation programmes since 1987 and Iceland since 1994.

More than 2,350 Icelandic and Norwegian participants, including many small and medium-sized enterprises (SMEs), took part in the last EU programme (2007-13). Icelandic researchers were involved in 217 projects, receiving funding of nearly €70 million. Norwegian researchers contributed to more than 1,400 projects, receiving a total of €712 million.

Source: [European Commission](#)



Finalists gear up for European Inventor Award 2014

Fifteen inventors of ground-breaking technologies will gather in Berlin next month to vie for prizes at the European Inventor Award 2014.

Finalists include top scientists, engineers and inventors in the fields of biotechnology, construction, environment, mechanics, medical technology, pharmaceuticals, telecommunications and traffic safety.

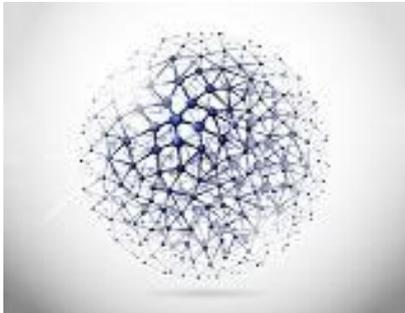
An international jury has whittled down the original 300 candidates to 15 inventors and inventor teams. All of the finalists have developed technologies that contribute towards social, technological and economic progress.

Presented by the European Patent Office (EPO), the European Inventor Award honours inventive individuals and teams whose pioneering work provides answers to the challenges of our age and contributes to social progress, economic growth and prosperity. EPO President Benoît Battistelli notes, 'The genius of these inventors underlines Europe's role as a prime hub of innovation, fostering the successful deployment of new technologies from all over the world.'



[Vote online](#) for your favourite inventor to win the 'Popular Prize'.

More information: [European Patent Office](#)



Science Hub - JRC

'Science Hub' – the new portal bringing together scientific knowledge for Europe

The newly launched 'Science Hub' brings together, on one single platform, all scientific knowledge produced by the European Commission's in-house science service - the Joint Research Centre (JRC) - and its research institutes across Europe. The Science Hub enhances the transparency and openness of the European Commission's in-house science service and facilitates the open access policy of our scientific research. The Hub is a gateway to ten science areas and a variety of related research topics.

Access to the new website: [JRC Science Hub](#)

EU eyes oceans innovation as source of sustainable growth

Two thirds of our planet is covered by oceans and seas. If we manage them in a responsible manner, they can provide sources of food, medicine and energy while protecting ecosystems for generations to come. However, in order to make this possible, we need to know more about our seas and oceans. The Commission has therefore presented on 8th of May an Action Plan for Innovation in the 'Blue Economy' to help use ocean resources sustainably and drive growth and jobs in Europe.

The Commission action plan presented on 8th of May proposes to:

- Deliver a digital map of the entire seabed of European waters by 2020.
- Create an online information platform, to be operational before the end of 2015, on marine research projects across the [Horizon 2020](#) programme as well as nationally funded marine research, and to share results from completed projects.
- Set up a Blue Economy Business and Science Forum, which will involve the private sector, scientists and NGOs to help shape the blue economy of the future and share ideas and results. A first meeting will take place in the margins of the 2015 Maritime Day event in Piraeus, Greece.
- Encourage research, business and education actors to map out the needs and skills for tomorrow's workforce in the maritime sector by 2016.
- Examine the possibility of major players from the research, business and education community to form a [Knowledge and Innovation Community](#) (or KIC) for the blue economy after 2020. KICs, part of the European Institute of Innovation and Technology (EIT) can stimulate innovation in multiple ways, for example by running training and

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

And visit the [European Commission Research & Innovation International Cooperation China webpage](#)



education programmes, reinforcing the path from research to the market and setting up innovation projects and business incubators.

The EU's maritime or "blue" economy is vast, with over 5 million employees in sectors as diverse as fisheries, transport, marine biotech and offshore renewables.

Between 2007 and 2013, the European Commission contributed an average of €350 million a year towards marine and maritime research through its seventh Framework Programme. A substantial amount of marine research is also carried out through Member States' programmes (around €300 million per year in France and Germany for example). Blue growth is a "focus area" in the new Horizon 2020 programme, with a specific €145 million budget for 2014-2015 alone, and further opportunities across the programme.

Source: [European Commission](#)

Uniting 6 000 researchers to crack medicine's toughest nuts: The Innovative Medicines Initiative

The EU Research & Innovation Magazine [Horizon](#) published on 9th of May an article by prof. Michel Goldman, executive director of the Innovative Medicines Initiative, introducing the initiative and the main topics it is working on.

The Innovative Medicines Initiative (IMI) is one of seven Joint Technology Initiatives set up by the European Commission to fund research by combining public and private financing.

The IMI has united around 6 000 researchers across Europe and includes 650 academic and research teams, as well as over 400 teams from big companies, in the fight against some of the world's most intractable diseases.

IMI2 is aiming to develop new treatments such as vaccines or antibiotics, and improve the success rate of clinical trials into diseases like Alzheimer's by 30 %. The initiative will launch its first calls under Horizon 2020 on 9 July 2014 at a joint event in Brussels.

Read the article by prof. Goldman [here](#).

For more details: [#IMI2](#).

EU Research Highlight – Help for failing eyesight

The EU-funded CREST project is tackling the debilitating effects of age-related macular degeneration, a condition that affects a high proportion of older citizens. But the results could have far-reaching implications for the normally sighted as well, enabling what some have called 'super-vision'.

Age-related macular degeneration (AMD) is a medical condition involving damage to the retina. It is the leading cause of blindness in the developed world, usually affecting older adults. Approximately 30% of patients aged 75 to 85 will have some macular degeneration. AMD results in a loss of vision in the



The executive director of the Innovative Medicines Initiative, Professor Michel Goldman.

Image: Arnaud Ghys



© Tyler Olson fotolia



centre of the visual field (the macula), and can make it difficult or impossible to read or to recognise faces. Patients with AMD lose their social independence and quality of life.

“Nutritional pigments at the back of the eye are central to understanding AMD,” explains Professor John Nolan of the Waterford Institute of Technology. In 2011, he was awarded a European Research Council (ERC) Starting Grant for the CREST project, aimed at measuring the impact of these substances on vision.

“The levels of these pigments are suboptimal in many people,” he says. “Deficiencies in meso-zeaxanthin, lutein and zeaxanthin, for example, are known to contribute to the development of AMD.” Macular carotenoid pigments, as they are called, act to filter blue light. “Years of exposure to blue light is known to cause problems,” Prof. Nolan explains, “so these pigments act as a kind of sunscreen for the eyes.”

Prof. Nolan says initial work has already helped to identify ways to build macular pigment in the eye. “Formulations containing combinations of meso-zeaxanthin, lutein and zeaxanthin are now widely available; sold commercially as dietary supplements and promoted as enhancing eye health.”

Part of the challenge for the CREST team is to measure any improvements in eyesight delivered by these supplements: “What we need is level-one evidence for the medical community – that means clinical trials, like the ones we are carrying out in CREST.”

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

EU Research Highlight – Tapping into a new source of water - flue gas

What does a coal-fired power plant produce? Well, electricity, of course, but it could also supply clean water. And so could many other types of factory. Technology developed by the EU-funded CapWa project extracts water from flue gas - more, in some cases, than was initially brought in. It also saves energy.

Considering how many industrial processes use water that is eventually released as vapour, this advance could help whole sectors of the economy to avoid precious resources going up in smoke.

For the average coal-fired power plant, for example, the technology can extract more water than the plant can reuse, turning it from a consumer into a producer. This is due the fact that the plant ‘exhales’ a substantial amount of vapour.

“There is a lot of water in flue gas,” says project coordinator Ludwin Daal of DNV GL – Energy, formerly known as KEMA. “For a typical coal-fired power plant of 400 MW, there is about 150 cubic metres of water coming out per hour, and you only need about 20 % of that to make the plant self-sufficient.”



© verdateo fotolia



Recovering water from flue gas also helps to save energy, as it dispenses with the need to heat the gas to reduce corrosion in the stack. And in some cases, the de-watered warm air can actually be reinjected into the process.

These energy savings are, in fact, one of the main reasons why the technology quickly pays for itself. A paper production plant, says Daal, could expect return on investment within a year or two.

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

EU Research Highlight – Revolution in rail technology promises to boost EU competitiveness

The successful testing of a 1.5 km-long freight train by an EU-funded project shows that Europe is on the right track when it comes to cost efficient, flexible and environmentally friendly solutions to the competitive demands of the 21st century.

Running longer and heavier freight trains along Europe's extensive rail network will save operators money, relieve congestion and help cut emissions. It will also help domestic manufacturers transport their goods more easily, and by extension lead to cheaper European-made products in supermarkets.

Up until now though, European braking and signalling rules have limited the size of freight trains. This could be about to change, with new technologies developed by the EU-funded Marathon project allowing operators to run longer trains safely and in compliance with the rules.

Earlier this year, the project team test-ran the first 1.5 km-long freight train from Lyon to Nîmes, France, carrying a maximum load of some 4 000 tonnes and reaching a top speed of just over 100 km/h.

“This marks the start of a completely new era in European freight transport,” says project coordinator Franco Castagnetti of D'Appolonia, an engineering consultancy based in Italy. “The project runs on the same principle that a jumbo jet can carry more than a DC9 on the same leg of a journey. This is an incredible result for a relatively small project, and Europe should be proud of it.”

Combinations of two standard trains of 750 m and three trains of 500 m were tested. It took less than 15 minutes to couple them – a major step forward in efficiency – while savings of up to 30% in the transportation costs of freight were recorded.

The construction of expensive new rail infrastructure for these longer trains is not needed. Instead, different types of trains simply converge at a given hub, to be assembled into a Marathon-type train.

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



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EU Research Highlight – Ushering in a new era of space flight

Many children dream of becoming an astronaut, yet only a few ever see that dream realised. That may soon change, thanks to the European Union (EU)-funded project, Future High-Altitude High-Speed Transport 20XX (FAST20XX). Run by a European consortium, which was led by the European Space Agency (ESA), the project investigated and developed technologies to conquer the grey zone between aeronautics and space in Europe.

The results achieved set the foundation for a new, long-term transportation paradigm, which would commercialise space flight and move it closer to the general population's reach.

In particular, FAST20XX team worked on two concepts: recreational suborbital flight (space flight that has less energy than needed for entering orbit) and point-to-point transportation (moving from one place to another). The first concept, ALPHA, is a vehicle that is air-launched from a carrier plane before it ignites its own hybrid rocket motor to climb out of the atmosphere and then glide back to the Earth. Passengers on this recreational suborbital flight would reach an altitude of 100-120km, crossing the Kármán line (the boundary between the Earth's atmosphere and outer space). "Everyone who crosses that line can call themselves an astronaut," says Rafael Molina from the ESA, who took over as coordinator of the three-year project in 2011.

FAST20XX project team managed to develop the ALPHA concept to the point where, if resources allowed, its entire system -- from the space-plane itself, to its hybrid propulsion, to the corresponding flight control system -- could start being developed. Molina explains that, because ALPHA highlighted regulatory and technological problems, the concept was an important step for his team towards commercial, rocket-powered point-to-point transportation. These problems need to be solved before their second concept, SpaceLiner, is ready for development.

After that, the advanced form of point-to-point transportation, SpaceLiner, would "allow a person to fly from Europe to Australia in two hours," explains Molina. The futuristic vessel is to be powered by a rocket engine and would take off vertically, and land horizontally. Although SpaceLiner is not yet ready for development, the project team has uncovered and solved numerous technical issues related to its design. For the first time, environmental aspects, such as sonic and chemical pollution of suborbital space flight were also investigated.

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

EU Research Highlight – Light-sensitive buildings to reduce air pollution

Improving air quality is a major challenge facing all European countries, both in order to combat climate change as well as to minimise the direct effects of breathing polluted air on human health.



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The European Union (EU)-funded research project LIGHT2CAT is investigating one technology which could help combat air pollution more effectively than previously possible. The technology involves making buildings and other built structures light-sensitive, mimicking the processes of plants.

The basic idea is to mix titanium dioxide (TiO₂) into the concrete used. TiO₂ is a semiconductor which acts as a photocatalyst. "It is similar to the chlorophyll in plants," explains LIGHT2CAT's Project Coordinator, Dr Andrea Folli, of the Concrete Centre of the Danish Technological Institute. "TiO₂ harvests sunlight, specifically the ultraviolet component. Once it is activated by light, TiO₂ catalyses reactions involving atmospheric oxygen and water resulting in the degradation of hazardous chemicals that come into contact with it. So, for example, nitrogen oxides, a hazardous component in vehicle emissions, are oxidised into harmless nitrates just like those commonly found in water or soil," explains Dr Folli.

Although this technique is not entirely new - it has been in use for some years – it has until now been subject to an important limitation: TiO₂ is only activated by UV light and therefore latitude and geographical position highly influence its overall efficiency. "In southern Europe," says Dr Folli, "the use of TiO₂ could result in nitrogen oxide reduction as high as 40%. In the duller conditions of northern Europe, that figure drops to 15% - 25%." The aim of LIGHT2CAT was to find a way to modify TiO₂ in order to develop a material responsive to visible light rather than just UV light. This would help the implementation of the technology in less sunny climates and would also allow for indoor use, for example to provide antibacterial surfaces in hospitals, in an economically viable way without requiring UV lamps.

Currently just over halfway through its project duration, LIGHT2CAT has made promising progress in developing a modified TiO₂ catalyst.

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

Event – 4th EASN Association International Workshop on Flight Physics and Aircraft Design, 27-29 October 2014, Aachen, Germany



The European Aeronautics Science Network (EASN) is delighted to announce that the 4th out of a series of annual specialized Workshops, this time in the fields of Flight Physics and Aircraft Design, will be held on October 27-29, 2014 in Aachen, Germany on the premises of RWTH Aachen University.

The Workshop will be co-chaired by Prof. Eike Stumpf and Prof. Wolfgang Schröder. In the frame of EASN Association's knowledge and innovation dissemination activities, this three-day event primarily aims to offer its participants a forum to meet and present among relative audience, the latest advancements in the areas of Flight Physics and Aircraft Design, together with novel and innovative ideas for future research. The 4th EASN Workshop on Flight Physics and Aircraft Design is expected to be, like its predecessors, a major dissemination event for running research projects.



Find out more on the [event's website](#).



Publication – Updated Horizon 2020 country factsheets

The Horizon 2020 Framework Programme for Research and Innovation European Union country factsheets have been updated with the latest figures including new data on:

Innovation Output Indicator position | SME participation | The number of ERC Principal Investigators | The number of Marie Skłodowska-Curie Actions Fellows | Top 10 beneficiaries in each country

These fact sheets give an overview of the research & innovation landscape of the 28 EU member states. It includes country profiles and featured projects in each country.

Read more: [Horizon 2020](#)



Publication – Marie Skłodowska-Curie actions: Pocket guide

Considering a doctoral degree? Looking for partnerships between academic and non-academic organisations or staff exchanges? Keen on outreach activities? There is a Marie Skłodowska-Curie action for you.

The EU's Marie Skłodowska-Curie actions fund all kind of opportunities for researchers from Europe and beyond. This starter booklet gives you the needed information to make the right first choice.

Guide available for downloading or on-line reading [here](#)

4.2 EU Member States*, China & Bilateral Cooperation

China – Xi takes note of advice by European foreign experts on talent, development and innovation policies

When 53-year-old former Dutch Cabinet minister Annette Nijs presented her well-prepared talent-hunting strategy on Thursday, she had a special listener in Shanghai. Nijs, the ex-minister for education, science and culture who is pursuing a new career in China, delivered the advice to President Xi Jinping.

* Including countries associated with Horizon 2020.



Chinese President Xi Jinping enters the venue to attend a meeting with foreign experts in Shanghai, May 22, 2014. [Photo/Xinhua]

Now the executive director of the China Europe International Business School, Nijs was one of 50 foreign experts from 22 countries invited by Xi to a meeting on China's development and talent policy. The meeting was high on Xi's agenda after a busy five-day schedule for a regional security summit and a series of bilateral meetings. Officials in charge of foreign talent issues said all 50 foreign experts work at Shanghai educational institutions and enterprises, and play a significant role in promoting development and breakthroughs in key projects and scientific research.

During the meeting, the experts gave advice ranging from reforming the talent evaluation system to better helping innovation. During the 90-minute meeting, Xi listened attentively to their proposals, taking notes from time to time. He said, "The advice was insightful and to the point, and we will consider it seriously." It was the second time that Xi had met foreign talent working in China since he became the country's top leader more than a year ago.

The number of foreign experts in China has risen from fewer than 10,000 at the end of the 1980s to about 530,000 by the end of 2011, according to the latest official figures.

"Opinions, analysis and merciless criticism from you will be conducive for us to face up to our own problems and solve those difficult ones," Xi told his guests.

Read more in source: [China Daily](#)

Denmark – Chinese company invest in Danish biogas and establish research centre in Denmark to reduce pollution in China

The Chinese company CECEP has invested in Danish biogas technology to develop solutions that can reduce pollution from restaurant waste in Chinese cities.

The Danish city of Nyborg has received an investment from the Chinese company CECEP City Lighting Management.

President Wang Yongming of CECEP City Lighting Management announced that he has bought an estate in the Danish city of Nyborg.

Mr. Wang plans to use the building to establish a research centre for biogas production in Denmark. Together with a group of local companies and the municipal government of Nyborg Mr. Wang hopes to receive funding for a development project aiming to refine and further develop methods for producing biogas from restaurant waste.

The investment is the result of close collaboration between Nyborg Municipality, the Royal Danish Embassy in China and Invest in Denmark.

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



France – Dassault Systemes and Tongji University sign cooperation agreement in architecture and urbanism

French company Dassault Systemes (3DS) signed on 22 April 2014 a cooperation Memorandum of Understanding (MoU) with the College of Architecture and Urban Planning of Tongji University in Shanghai.

The agreement foresees that Dassault and Tongji work together to launch new urban and architectural solutions while promoting e-learning and research. Dassault offers computer-aided design (CAD) software platforms and modeling tools for Industry and Civil Engineering. The company has long been active in China and after opening a joint R&D centre with the Shanghai Municipal Engineering Design Institute (SMEDI) in 2012, is now keen on working on education and training as well. These past 30 years, about 10% of Chinese cities' urban planning has been conducted by architects who graduated from Tongji University.

Read more in source: [La France en Chine](#)



WANG Haofeng (left), General Manager Great China of 3DS

France – 7th seminar of the joint France China Physics Particle Laboratory (FCPPL) held in France last April

The seminar took place from 8 to 10 April in the French city of Clermont-Ferrand at the Particle Physics and Nuclear Physics Laboratory IN2P3-CNRS, and brought over 130 French and Chinese participants together.

The researchers who took part in this 7th edition are working together on joint projects involving particles accelerators (the LHS belonging to CERN in France or the BEPC in Beijing), in the fields of theoretical physics, neutrinos physics, astroparticles, cosmology and technological development of particle physics equipment.

The director of the IN2P3-CNRS laboratory, five research unit directors of CNRS, the vice-director of the CNRS International Relations Department, the director of the Institute of High Energy Physics in Beijing (China's largest laboratory in the field of high energy physics), the director of the particles accelerator BEPC in Beijing as well, representatives of Tsinghua University, Wuhan University, University of Science and Technology of China (USTC, Hefei), Clermont Ferrand University and Shandong University, as well as staff of the Chinese embassy in France, all attended the seminar.

Together with the leading committee of FCPPL they decided to strengthen the Sino-French cooperation in this research field beyond the sole FCCPL joint lab. A working group has been set up in order to define the structure that could best materialize this ambition.

Le directeur de l'Institut de physique des particules et de physique nucléaire (IN2P3) du CNRS, cinq directeurs d'unités de recherche CNRS, la directrice adjointe de la direction des relations internationales du CNRS, le directeur de l'*Institute of High Energy Physics* de Pékin (le plus grand laboratoire de recherche en physique des hautes énergies en Chine), le directeur de l'accélérateur de particules BEPC de Pékin, des représentants de l'université



Opening of the seminar



The participants to the seminar



Tsinghua, de l'université de Wuhan, de l'USTC, des universités de Clermont-Ferrand ou du Shandong, et de l'Ambassade de Chine en France étaient notamment présents au colloque. Ils ont décidé, en accord avec le comité de pilotage du FCPPL, de pérenniser et d'intensifier la collaboration franco-chinoise au-delà du LIA FCPPL. Un groupe de travail a été formé pour définir la structure qui permettra de répondre au mieux à cette ambition renouvelée.

Further details in source : [La France en Chine](#)

Germany – Results of DAADS various funding programmes with Chinese partners published

The China office of the DAAD (the German Academic Exchange Service) has published the selection results of various of its cooperation programme with China, including: the Sino-German(CSC-DAAD) Postdoc Scholarship Program 2014, the Researchers-exchanges Programme (WAP) 2014, the Sino-German Joint Research Programs (PPP) 2013, the DAAD-Leibniz Fellowships 2013, the CAS-DAAD Scholarship programme 2013, the DAAD-Programme for Research stays 2013.

The results can be accessed on the [DAAD China office website](#).

Germany/China – CAS and MPG Celebrate 40th Anniversary of Partnership

Prof. BAI Chunli, president of the Chinese Academy of Sciences (CAS), and Prof. Peter Gruss, president of the Max Planck Society (MPG), celebrated the 40th anniversary of partnership between the two national science institutions on May 13 in Beijing. Cooperation between CAS and MPG dates back to 1974 when Prof. Reimar Lüst, then President of the Max Planck Society, paid his first visit to CAS. During that visit, MPG agreed to accept 2-4 CAS scholars every year for advanced training.

The partnership between the two institutions expanded in 1978 with a formal agreement for more extensive cooperation and broader academic exchange between the two sides. Under the CAS-MPG partnership, over 250 CAS Ph.D.s have participated in joint training programs with the German institution.

The past four decades have seen a variety of other joint initiatives, such as the guest laboratory, research groups, partner groups, the Institute for Advanced Study, the Partner Institute for Computational Biology, the Joint Training Program, and the Exploratory Round Table Conference (ERTC).

Further details in source: [CAS](#)



Portugal – Portuguese President Cavaco Silva Witnesses Strengthened Cooperation between SIMM and Portuguese University and Company

The Shanghai Institute of Materia Medica, Chinese Academy of Sciences (SIMM) launched more cooperation with Portuguese university and company during the visit of Portuguese President Cavaco Silva to SIMM on May 14, 2014.

The enhanced cooperation was unfolded by the Memorandum of Understanding (MoU) signed between SIMM and Portuguese University of Minho (UMinho), as well as a collaboration agreement between SIMM and TechnoPhage, a biotechnology company headquartered in Lisbon, Portugal.

The MoU is to create a cooperation platform which should foster collaboration, provide opportunity for global experience, joint applications to research programs in the European Union (EU) and in China, exchange of students and staffs, protection and valorization of new technologies, and to facilitate advancement of knowledge on the basis of reciprocity, best effort, mutual benefit, and frequent interactions.

Read more in source: [CAS](#)

Sweden – New Sino-Swedish environment cooperation in sight

Now that the SIDA-based Swedish development cooperation was terminated at the end of the year, Sweden wants to propose modalities for a continued profitable environmental cooperation with China. It can be about sharing experiences and promoting environmentally friendly solutions, especially at a time when environmental issues are getting more attention than ever in China.

Swedish climate Ambassador Anna Lindstedt came to China from 19th to 22nd of May to lead a delegation from the Ministry of Environment and the Environmental Protection Agency for an annual bilateral meeting with the Chinese Ministry of Environmental Protection where these issue were on the agenda. The purpose of the meeting was to work out how a plan for continued environmental cooperation between the two countries should look.

During the week, Anna Lindstedt also met with China's climate negotiators to discuss how Sweden and China can work together to increase the chances that an agreement is reached at the climate conference in Paris in 2015 where the next global climate agreement will be signed.

Read more in source: [Sweden abroad](#)

Sweden – Sustainability Concept Promoted by China and Sweden in Suzhou through CSR Training

The 13th Sino-Swedish Corporate Social Responsibility (CSR) training started in Suzhou on 20 May 2014. Victoria Li, Consul General of Sweden in Shanghai,



Anna Lindstedt - Photo: Hanna Björnfors/Regeringskansliet



Victoria Li, Consul General of Sweden in Shanghai – Photo: Yang Hua

and Mr. Song Lihong, Deputy Director General of the General Economic Affairs Department of Ministry of Commerce of China, spoke at the opening ceremony.

"About 800 people have participated in the 12 sessions of Sino-Swedish CSR trainings during the past 6 years. It is a very good platform to learn about CSR and good practices of companies and governments. I hope our participants become the practitioners, promoters and advocators of CSR after the training," said Mr. Song Lihong.

There are about seventy participants in total, who are commercial officials and representatives of industrial associations and Chinese companies from different provinces. Among them, there are 29 people from Chinese suppliers of Swedish companies.

During the first day, lectures and discussions focused on the relation between CSR and competitiveness, fairness and efficiency, sustainability and innovation.

Read more in source: [Sweden abroad](#)



5 Grants & Fellowships

5.1 Calls announcements for international researchers

Austria – Marietta Blau Grant

The Marietta Blau Grant offers financial support for carrying out the abroad part (6-12 months) of a doctoral programme at Austrian universities. The grant enables scientific research worldwide.

The grant is for highly qualified doctoral candidates in **all research fields** enrolled at an Austrian university. It funds specific longer-term research stay abroad and experience in an international research environment with monthly grants of 1,200 Euros.

The next closing date for application is **1st of September, 2014**.

Further details available [here](#).

Denmark – Exchange of scientists between the Danish Rectors' Conference and the Chinese Academy of Sciences

With a view to stimulate the research mobility between Denmark and China, the Danish Rector's Conference has signed a letter of understanding with the Chinese Academy of Sciences (CAS).

Under the programme three grant types exist:

- Short term stays for 14-30 days for senior researchers
- Longer term stays for 6-12 months for PhD-students
- Long term stays for 12 months for postdoctoral students

The programme covers the **natural and technological sciences**. The call is relevant for both PhD- and postdoctoral students and for senior researchers.

The next application deadline is **1 October 2014**.

Click [here](#) for more information (page in Danish, but application material in English).

France – Paola Sandri Research Travel Grant

This grant of 1000 Euros funds research visits of at least one month duration in mainland China, Hong Kong, Macau or Taiwan for PhD students in **social**



sciences and humanities. It has been set up in memory of Paola Sandri, PhD in Chinese Studies at the Institut d'Études Transtextual and Transculturelles at University Jean Moulin – Lyon who died during her doctoral studies in China in July 2006.

PhD students in France of all nationalities are eligible to apply. The next application deadline is **5 September, 2014**.

Further details can be found [here](#).

Germany – China/Germany Joint Research Programme (PPP)

This programme is jointly funded by the DAAD and the China Scholarship Council to promote joint research between scientists of **all fields** in Germany and China by granting support for the exchange of project partners.

The goal is to increase the mobility of researchers and groups to intensify their exchange to promote short-term visits by scientists and graduate students from all disciplines. For this purpose, travel and accommodation is paid over a period of 1 to 2 years.

The programme ore specifically funds short research stays within 2 years up to 1 month every year for project leaders, and 3 months for project members.

The application deadline both in China and in Germany is **15 June, 2014**.

Find out more about this scheme on the [DAAD website](#).

Germany – Green Talents Competition 2014

The German Federal Ministry of Education and Research (BMBF) invites young researchers from all over the world every year to take part in the "Green Talents - International Forum for High Potentials in Sustainable Development".

Since 2009, the German Federal Ministry of Education and Research (BMBF) has held the prestigious ["Green Talents - International Forum for High Potentials in Sustainable Development"](#) to promote the international exchange of ideas regarding green solutions.

The award, whose patron is Minister Professor Johanna Wanka, **honours 25 young researchers from around the world each year. The winners come from various scientific disciplines and are recognised for their outstanding achievements in making our societies more sustainable.** The Green Talents 2014 will be selected by a high-ranking jury of German experts and are granted unique access to the elite of the country's sustainability research field. This includes:

An invitation to Germany in 2014 to participate in the fully funded [two-week science forum](#). While touring Germany, top locations will open their doors to the Green Talents and offer them an exclusive insight into their facilities and projects. A chance to present themselves and their work in personal





discussions held as part of [individual appointments](#) with experts of their choice (during the two-week science forum). A second invitation to Germany in 2015 for a [fully funded research stay](#) of up to three months. At an inspiring location of their choice, the Green Talents will gain new experiences and advance their professional careers while establishing long-lasting partnerships. Exclusive access to the "Green Talents Network"

Deadline for submission is **16 June 2014**.

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

International – Transnational call for proposals in the context of the Belmont Forum: Arctic observing and research for sustainability

Developing a robust understanding of the integrated system of society is a common interest among Belmont Forum members and is the focus of this Collaborative Research Action Call for proposals. The ultimate goal of the call is to utilize existing Arctic observing systems, datasets and models to evaluate key sustainability challenges and opportunities in the Arctic region, to innovate new sustainability science theory and approaches to these challenges and opportunities, and support decision-making towards a sustainable Arctic environment.

Through this Call, the Belmont Forum seeks to bring together integrated teams of **natural scientists, social scientists, and stakeholders** to develop projects that utilize existing Arctic observing systems, datasets and models to evaluate key sustainability challenges and opportunities in the Arctic region across one or more of four possible themes:

- 1- The natural and living environment – focusing on in-depth understanding of the nonlinear physical and biological interactions within the Arctic.
- 2- The built environment and infrastructures – including but not limited to housing and transportation structures, energy, and communications technologies, climate-resilient materials, and sustainable observing designs.
- 3- Natural resource management and development – comprising drivers and impacts both in natural and human systems, within the Arctic and interaction with the rest of the world, including food and water security.
- 4- Governance – addressing the interactions between actors and organizations that govern the future of the Arctic, from local and tribal to international scale, and their impacts on the natural environment.

The Belmont Forum seeks to support projects that are based on inter- and trans-disciplinary research involving robust end user community engagement. Recognizing that the international research communities needed to address the challenges of this Call may be in various stages of development, the Belmont Forum will support three complementary types of proposals.



TYPE 1: Small collaboration grants, available to connect researchers and stakeholders from three or more countries to engage in transdisciplinary collaboration around one or more of the themes. Applicants should consider for their collaboration the development of research proposals for other calls (whether national or international), best practices, shared methodologies, and interdisciplinary scholarship for these themes. The total budget for a TYPE 1 project should not exceed 200,000 Euros.

TYPE 2: Small synthesis grants, available to synthesize results from existing or finished research grants, activities, and other national or international projects. The total budget for a TYPE 2 project should not exceed 500,000 Euros.

TYPE 3: Research grants, available to address one or more of the themes through the lens of Arctic observing systems and sustainability science. The total budget for a TYPE 3 project should not exceed 1,000,000 Euros.

Funding should support researchers to cooperate in consortia consisting of partners from at least three of the participating countries.

Participating countries are as following: Canada (NSERC and SSHRC), **China (NSFC)**, France (ANR and CNRS), Iceland (Rannis et SAI), India (MoES), Italy (CNR), Japan (JST), NordForsk, Norway (RCN), Russia (RFBR), USA (BOEM and NSF), USA-UK (WOC).

Application deadline is **31st July, 2014**.

Further details about this call can be found [here](#).

International – IIASA Postdoctoral Program

The International Institute for Applied Systems Analysis (IIASA, Austria) provides each year full funding for 4 postdoctoral researchers for a period up to 2 years. Scholars are expected to conduct their own research within one of IIASA's research programs or special projects on topics closely related to IIASA's [agenda](#). As all research carried out at IIASA is interdisciplinary, research programs work together within and across the three global problem areas:

- [Energy and Climate Change](#)
- [Food and Water](#)
- [Poverty and Equity](#)

Research in the three global problem areas is supported by research into the main [drivers of the transformations](#) taking place in our world: population, technology, and economic growth.

IIASA research is problem-driven and solution-oriented, conducted with [policy relevance](#) as its main principle.



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

Candidates should have a Ph.D. at the time of taking up the appointment and are expected to have a proven record of research accomplishments, and a solid working knowledge of English.

Upcoming deadline for new applications is **30 June 2014**.

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

Netherlands – Rubicon programme

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

Rubicon offers talented researchers who have completed their doctorates in the past year the chance to gain experience at a top research institution outside the Netherlands. Rubicon is open for **all scientific disciplines** for a research project at a foreign research institute. For certain typically Dutch topics, there is also a limited opportunity to apply for a research period at an excellent Dutch research institute.

Postgraduates who are currently engaged in doctoral research or who have been awarded a doctorate in the twelve months preceding the relevant deadline are eligible to apply.

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

Next application deadline is **3 September, 2014**.

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

Sweden – VINNMER Marie Curie Incoming and Industry Outgoing Fellowships

The purpose of the grant, co-funded by the EU's Marie Skłodowska-Curie, is to support career development for individuals through mobility. The programme has a funding mechanism for incoming and outgoing transnational mobility for experienced researchers (including a reintegration phase for outgoing mobility), and it promotes active international collaborations between involved organisations. The programme includes the following calls for proposals for individual researchers:

- [VINNMER Marie Curie Incoming](#): Funds international mobility to Sweden with project times of 1–3 years, open to researchers of all nationalities who have at least four years of research experience. The fellowship can cover up to 50% of salary costs as well as additional



relevant and justifiable costs relating to mobility. Application deadline of current call: **16 September, 2014**.

- [VINNMER Marie Curie Industry Outgoing](#): Funds international mobility from Sweden with project times of 1–3 years, open to researchers of all nationalities in industry or research institutes with at least four years of research experience. The fellowship can cover up to 50% of salary costs - additional relevant and justifiable costs relating to mobility. Application deadline of current call: **16 September, 2014**.

VINNOVA recommends the applicants to the calls above to first apply for a planning grant. Planning grant proposals are submitted to two separate calls depending on what type of project which is planned:

- [VINNMER Marie Curie Incoming – Planning Grant](#)
- [VINNMER Marie Curie Industry Outgoing – Planning Grant](#)

UK – Royal Society International Exchanges Scheme

This scheme is for scientists in the UK who want to stimulate new collaborations with leading scientists overseas through either a one-off visit or bilateral travel.

The scheme covers all areas of **the life and physical sciences, including engineering, but excluding clinical medicine**.

Both the UK applicant and overseas applicant must:

- have a PhD, or be likely to have a PhD by the time the funding starts
- hold a fixed or permanent contract at an eligible organisation for the duration of the project (ineligible organisations include industrial, private and commercial organisations, university spin-out companies, government bodies and research institutes and research councils)
- be based in the respective countries at the time of the application

Collaborations should be based on a single project and travel can only take place between the UK and a country where the overseas collaborator is based.

In the case of cost share applications (see announcement below), a relationship between both parties should already be established prior to making an application.

The International Exchanges Scheme is available for travel to all countries outside of the UK.

The funding available is dependent upon the length of the visit. Applicants may request:

- up to of £3,000 for one-off travel lasting up to 3 months
- up to £6000 for multiple visits to be completed within 1 year (including a maximum of £1000 for research expenses)



- up to £12,000 for multiple visits to be completed within 2 years and cost share projects fixed at 2 years (including a maximum of £2000 for research expenses)

Application deadline is **1 July, 2014**.

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

UK – Royal Society International Exchanges Scheme – Kan Tong Po Fellowships

Also as part of its International Exchanges scheme, the Royal Society now offers additional funding through its Kan Tong Po Fellowships. This support has been made possible through the generosity of the family of the late Mr Kan Tong Po.

The purpose of this scheme is to contribute at the highest level of scientific research and education at the University of Hong Kong, Chinese University of Hong Kong, the Hong Kong Polytechnic University, the City University of Hong Kong and the Hong Kong University of Science and Technology, by awarding Visiting Fellowships each year to UK or US based scientists to collaborate with a Hong Kong based academic, or for Hong Kong based scientists to collaborate with an academic based in either the UK or US.

The scheme covers all areas of **the life and physical sciences, including engineering, but excluding clinical medicine**.

Application deadline is **1 July, 2014**.

Please refer to the [Kan Tong Po Fellowship Programme](#) notice for more information.

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

UK – Royal Society International Exchanges Scheme – Cost-share programmes with Mainland China and Taiwan

In the framework of the Royal Society International Exchanges Scheme, if you intend to collaborate with partners in Taiwan, France, Ireland, China or Russia, your proposal can also be considered as a cost share application. This entails the UK applicant submitting a proposal to the Royal Society for up to £12,000 and the overseas applicant simultaneously submitting a proposal for an additional amount up to/equivalent to £12,000 to a partner organisation, with whom the Royal Society has a funding agreement.

In China, the partner organization is the NSFC. Application deadline is **21 October 2014**.

In Taiwan, the partner organization is the NSC. The deadline for application is **28 October 2014**.

Read more about the cost-share programme [here](#).



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

5.2 Calls still open

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

EU – European Institutes for Advanced Study (EURIAS) Fellowship Programme

The deadline for application is **June 5th, 2014**.

Visit the [EURIAS website](#) to read more details about the programme and learn about how to apply.

Ireland – Science Foundation Ireland (SFI) Industry Fellowship Programme 2014

Next application deadline is **10th of June, 2014**.

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

Sweden – Initiation Grants

The next assessment date of received applications is **10 June, 2014**.

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

France – ANR "Hosting high-level researchers" (@RAction) scheme

Application deadline is **24 June, 2014**.

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

Luxembourg – INTER Mobility Programme 2nd 2014 Call

Application deadline is **30 June, 2014**.

Read more about this programme on the [FNR website](#).

Germany – 20 Incoming Postdoc Fellowships at Freie Universität Berlin Dahlem Research School

Deadline for applications is **4 July, 2014**.

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



EU – EMBO Long-Term Fellowships

The next application deadline is **15 August, 2014**.

Find out more details about this fellowship on the [EMBO website](#).

EU – CERN Fellowship and GET Programmes

Application deadline is **1st of September, 2014**.

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

EU – Marie Skłodowska-Curie Individual Fellowships (IF)

Application deadline is **11 September, 2014**. Access the online call and get all details on the [Horizon 2020 Participant portal](#).

Germany – German Chancellor Fellowship – new call for applications from tomorrow’s leaders

The deadline for applications is **15 September, 2014**.

Read more about this programme on the [Humboldt Foundation website](#).

5.3 Open calls under Horizon 2020 and Euratom

Access all open calls on the [Horizon 2020 Participants’ portal](#).

Excellent Science programme

15 open calls including:

European Research Council:

[ERC Proof of Concept Grant](#) – Deadline **1 October, 2014**

Marie Skłodowska-Curie actions:

[Marie Skłodowska-Curie Individual Fellowships \(IF\)](#) – Deadline **11 September, 2014**

[COFUND – Co-Funding of Regional, National and International Programmes](#) -
Deadline **2 October 2014**



Industrial Leadership

[23 open calls](#)

Societal Challenges

55 open calls including the following ones particularly encouraging collaboration with China (*however, it should be kept in mind that ALL calls are open to Chinese participation!*):

[SFS-13-2015: Biological contamination of crops and the food chain](#) – Deadline **24 February, 2015**

[MG-1.8-2015: International cooperation in aeronautics](#) – Deadline **31 March, 2015**

[MG.5.5-2015 Demonstrating and testing innovative solutions for cleaner and better urban transport and mobility](#) – Deadline **27 August, 2015**

[WASTE-7-2015: Ensuring sustainable use of agricultural waste, co-products and by-products](#) – Deadline **16 October, 2014**

[INT-11-2014/2015: European cultural and science diplomacy: exploiting the potential of culture and science in the EU's external relations](#) – Deadline **1 July, 2015**

[BG-15-2014: European polar research cooperation](#) – Deadline **26 June, 2014**

Science with and for society

8 open calls including the following one including China in its scope:

[ISSI-5-2014: Supporting structural change in research organisations to promote Responsible Research and Innovation](#) – Deadline **2 October, 2014**

[ISSI .5.2015: Supporting structural change in research organisations to promote Responsible Research and Innovation](#) – Deadline **16 September, 2015**

Euratom

[1 open call](#)



6 Jobs

Access thousands of jobs and fellowships announcements in Europe and worldwide on the [EURAXESS Jobs portal](#).



China – Marie Curie Early Stage Researcher (PhD student) position in the field of Regional Powers in World Politics at Fudan University (Shanghai)

The [Marie Curie Initial Training Network PRIMO – Power and Region in a Multipolar Order](#) – develops innovative research and training in the field of International Relations, in particular with respect to the growing importance of Brazil, Russia, India, China and South Africa in international politics and the global economy. It offers PhD positions at partner institutions in Germany, the UK, Turkey, China, India, Brazil, South Africa, Russia and Portugal.

In China, the doctoral candidate will be hosted at Fudan University in Shanghai. The scholarship would start in September 2014 for a period of 36 months. The three-year contract comes with a competitive salary plus mobility allowance.

Objective of the research of the doctoral student hosted by Fudan University is to investigate cooperation and conflict between China and the EU in such issues as anti-piracy, financial crisis and nuclear non-proliferation policies and to find out what cooperative management mechanism China and the EU could develop.

The research training includes internships/secondments and training events with different partners within the network.

Candidates should have a background in one or more of the following fields: **international relations, international political economy, area studies and new qualitative methods**. Fluency in English is expected from all candidates.

Candidates must be, at the time of recruitment by the host organisation, in the first four years of their research careers and have not yet been awarded a doctoral degree.

Eligible candidates must not, at the time of recruitment have resided or carried out their main activity (work, studies, etc) in China for more than 12 months in the 3 last years immediately prior to the reference date. Short stays are not taken into account.

Application deadline is **15 June, 2014**.

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



Under the same ITN PRIMO, the following early stage researcher positions in countries other than China are open with the **15th of June** as application deadline:

- Climate governance in a multipolar world order - University of Hamburg, Germany;
- Comparative analysis of the role of identity in Indian, Turkish and Russian foreign security policies - Middle East Technical University, Ankara, Turkey;
- The Consequences of limited material capacity for Brazil's foreign policy - Universidade de Lisboa, Portugal
- Emerging powers in the IMF and the WTO: group hegemony, multilateral cooperation or Westphalian reassertion? - St. Petersburg State University, Russia;
- International organizations, the global poverty debate and the role of emerging powers - Stellenbosch University, South Africa;
- Brazil and Africa: security cooperation within the South Atlantic - Universidade de Lisboa, Portugal;
- Old powers' reactions and responses to the rise of India - Jawaharlal Nehru University, New Delhi, India

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

China – Faculty and Postdoc positions at Brain Cognition and Brain Disorders Research Institute (Shenzhen)



Multiple faculty and postdoctoral positions are available at the new Brain Cognition and Brain Disorders Research Institute established by joint efforts of Shenzhen Institute of Advanced Technology (CAS) and the McGovern Institute for Brain Research at MIT, located in Shenzhen, China. A key area of research is to create and use new genetic models of brain disorders in primates. We are looking for highly motivated researchers with experience in primates or who wish to use primate models in translational studies including disease mechanisms and development of new medicines.

The candidates are expected to have research experiences using cellular/molecular biological, electrophysiological, animal behavioral, or optogenetic techniques.

The announcement expires on **11 July, 2014**. Access the full announcement on [naturejobs](#).

China – 10 PhD Studentships in coastal engineering at University of Nottingham (Ningbo)



Applications (September 2014 Entry) are invited to undertake postgraduate research within the new Ningbo Nottingham International Academy for the Marine Economy and Technology (IAMET), a new centre of excellence for marine-related research and business engagement. The IAMET is collaboration



between The University of Nottingham in the UK and Ningbo, China, Zhejiang Wanli Education Group and the Ningbo Municipal Government, and will engage with both local and international companies providing opportunities for collaboration and commercialisation of joint activities in:

- **Port services, trade and logistics**
- **Marine advanced materials**
- **Marine natural products**
- **Marine environmental management**

Applications are invited any of the above areas but with an initial focus on the Power Electronics, Machines and Drives research group or the Port Logistics and Services research group, with many of the scholarships being linked directly with industry.

10 positions are available.

The scholarships are based at The University of Nottingham's campus in Ningbo, China. They are available from September 2014 for a period of three years, with a stipend of up RMB 3,000 per month (c. GBP 300 per month) and an accommodation allowance of RMB 4,800 per year (c. GBP 480 per year) for local students and RMB 12,000 per year (c. GBP 1,200 per year) for international students. Tuition fees are fully funded and medical insurance and health insurance are provided. Teaching assistantships with extra payment may be available for talented PhD students.

Application deadline is **31st July 2014**, but **potential applicants are urged to apply as soon as possible to maximise their chances of success.**

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

EU –Research positions at the Joint Research Centre

The European Commission's Joint Research Centre (JRC) is currently advertising position vacancies.

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

Italy – Fellowship at the INAF-Osservatorio Astronomico di Trieste on the “Development of observational templates and high-level control software for ESO high resolution spectrographs” (Trieste)



The project goal is the design, implementation and installation of the high-level control software (user/astronomer interface) and of the relevant observational templates for high resolution spectrographs in the ESO environment which are presently under construction and/or in the planning phase. Besides the control software design and development, the grant holder will take part in the installation and test phases on all European partner systems and in particular in the integration phase in Europe.

Participation to the selection is open to researchers of all nationalities holding the following minimum requirements:



PhD degree either in Physics, Astronomy, Computer Science, Computer Engineering or Mathematics, or equivalent degree, issued by an Advanced Studies Institute or University.

In particular, knowledge of object-oriented programming techniques as well as of C and C++ languages is required.

The maximum duration of the fellowship is 24 months and the yearly amount of the grant is 28,000 EUR.

Application deadline is **13 June, 2014**.

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

Spain – 15 positions for Senior Researchers as ‘Ikerbasque Research Professors’ at Basque Research Institutes (Basque Country)

Ikerbasque, the Basque Foundation for Science, has launched a new international call to reinforce research and scientific career in the Basque Country (Spain) with 15 positions for Senior Researchers Ikerbasque Research Professors.

It offers permanent contract positions within any of the Basque Research Institutes (Universities, BERC - Basque Excellence Research Centres, CIC - Cooperative Research Centres, Biomedical institutions and Technology Corporations, among others).

Requirements of applicants:

- The applicants must have their PhD completed before 1/1/2006.
- Only researchers with a solid research track, senior level and international research experience are considered.
- Two reference letters are mandatory.
- Support letters from host institutions are not mandatory but strongly welcomed.
- Women candidates are specially welcomed.

The application deadline is **10 September, 2014**.

For further information, visit www.ikerbasque.net.

Ikerbasque would appreciate your help in disseminating this information, in case you know about any colleague that could be interested and meets the requirements of the call.

This call is co-financed by the European Commission [SMARTbrain project](#).



ikerbasque
Basque Foundation for Science



7 Events

7.1 EURAXESS Links China recommends



Tour of China 2014

Discover Research and Innovation Collaboration with Europe



TOUR OF CHINA 2014 comes to South China in June

The 3rd comprehensive Research and Awareness Raising and Information Campaign in China – the TOUR OF CHINA 2014 edition – has started in May, already stopping in Kunming, Chengdu, Hefei, Shanghai and Suzhou.

Building on the success of the 2012 and 2013 editions, the TOUR OF CHINA 2014 showcases Europe's (EU and EU Member States) wide array of research and innovation opportunities across nine major Chinese cities, reaching a wide audience of Chinese researchers, scientists and innovation stakeholders from the public and private sectors.

This year's TOUR, which is organised in partnership with the Chinese Academy of Sciences (CAS), one of the EU's key partners for collaborative research, includes visits to some of the most famous CAS institutes across China.

The next stops will be **in Xiamen, Shenzhen and Guangzhou on 23rd, 24th and 25th of June** respectively. The final event of the tour is scheduled to take place in Beijing on 27th of June.

Researchers of all nationalities based in or around these cities are warmly invited to attend these meetings in which EURAXESS Links China is also taking part.

Collaboration opportunities offered by the EU Member States and Associated Countries and by the European Union's new Framework Programme for Research and Innovation 'Horizon 2020' as well as the services provided by EURAXESS Links China will be highlighted.

For further information about these events and how to attend please write to Delegation-China-Scitech@eeas.europa.eu.



7.2 Upcoming scientific events in China

Field	Date	Location	Title (click for more details)
Microbiology	2-6 June, 2014	Suzhou	Systems Medicine Approach to Global Infectious Disease
Structural Biology	9-13 June, 2014	Suzhou	5th CSHA Symposium: Structural Biology - From Atoms to Molecules
Engineering	10-12 June, 2014	Ningbo	Optics Within Life Sciences 2014
Chemical Biology	16-20 June, 2014	Suzhou	Protein Modification & Homeostasis
Bioinformatics	16-20 June, 2014	Shenzhen	BGI Bioinformatics Workshop on Diseases
Engineering	18-21 June, 2014	Wuhan	The 7th International Photonics and OptoElectronics Meetings (POEM 2014)
Neuroscience	23-27 June, 2014	Suzhou	CSHA / NGF 2014 Joint Conference on Nerve Growth Factor and Related Neurotrophic Factors: Emerging Concepts, New Mechanisms, Novel Technologies
Bioinformatics	27-29 June, 2014	Dalian	BIT's 4th Annual World Congress of Microbes 2014 (WCM2014)
Pharmacology	17-18 July, 2014	Shanghai	2nd Digital Pharma China
Computer science	19-20 July, 2014	Shanghai	4th International Conference on Computer Engineering and Networks (CENet 2014)
Marine biology	4-9 August, 2014	Shanghai	ClimEco4
Drug discovery	25-29 August, 2014	Suzhou	CSHA Disease Modeling and Drug Discovery
Agriculture	29-31 August, 2014	Changchun	BIT's 3rd Annual World Congress of Agriculture-2014 (WCA2014)
Immunology	2-6 September, 2014	Suzhou	Frontiers of Immunology in Health and Diseases
Bioinformatics	9-12 September, 2014	Shenzhen	Joint Conference of the 9th International Conference on Genomics (ICG-9) and the 3rd



				Shenzhen International Biotechnology Innovation Forum & Expo (SIBIFE-3)
Systems biology	9-12 September, 2014	Suzhou		Systems Biology of Gene Regulation and Genome Editing
Neuroscience	15-19 September, 2014	Suzhou		Neurobiology: Diverse Species and Conserved Principles
Bioinformatics	15-18 September, 2014	Shenzhen		2014 BGI International Bioinformatics Workshop
Engineering	20-21 September, 2014	Beijing		The 2nd International Conference on Mechatronics and Automatic Control Systems
Molecular biology	22-26 September, 2014	Suzhou		CSHA GTPases: Mechanisms, Interactions and Applications
Ecology	8-12 October, 2014	Suzhou		CSHA Evolutionary Genetics and Genomics
Marine Biology	12-16 October, 2014	Qingdao		World Conference on Marine Biodiversity 2014
Remote sensing	13-17 October, 2014	Beijing		9th SPIE Asia-Pacific Remote Sensing Symposium
Computational biology	13-17 October, 2014	Suzhou		CSHA Quantitative Biology
Cell biology & Genetics	15-17 October, 2014	Shanghai		2014 International Experimental Biology and Medicine Conference
Molecular biology	16-18 October, 2014	Hong Kong		EMBO workshop: Cancer Stem Cells and Epigenetics
Engineering	16-19 October, 2014	Beijing		The 6th International Conference on Hydrometallurgy-ICHM2014
Molecular Biology	20-24 October, 2014	Suzhou		CSHA Genetics, Genomics, Phenomics of Fish
Diabetes research	24-26 October, 2014	Taiyuan		BIT's 2nd Annual World Congress of Nutrition and Health (WCNH2014)
Molecular Biology	27-31 October, 2014	Suzhou		CSHA Mechanism of



	2014			Transmembrane Signaling
Physics	2-6 November, 2014	Hefei		12th International Conference on Quantum Communication, Measurement and Computing
Cancer research	9-11 November, 2014	Beijing		Cell Symposium - Hallmarks of Cancer: Asia
Diabetes research	13-16 November, 2014	Haikou		BIT's 7th Annual World Congress of Regenerative Medicine & Stem Cells-2014 (RMSC2014)
Diabetes research	13-16 November, 2014	Haikou		BIT's 4th Annual World Congress of Endobolism-2014 (WCE2014)
Hypertension research	13-16 November, 2014	Haikou		BIT's 6th International Congress of Cardiology (ICC2014)
Emergency medicine	13-16 November, 2014	Haikou		BIT's 4th Annual World Congress of MolMed-2014 (MolMed2014)
Drug discovery	21-23 November, 2014	Suzhou		BIT's 12th Annual Congress of International Drug Discovery Science & Technology



8 Press Review*

8.1 Policy & Papers

CAS Issues Open Access Policy

The Chinese Academy of Sciences (CAS) will promote open access to scientific articles generated from publicly funded research, the academy announced on 15th May in Beijing. In a statement, CAS said it will require its researchers and graduate students to deposit final, peer-reviewed manuscripts of research articles into the open access repositories of their respective institutes within 12 months of their official publication in academic journals. CAS will also encourage researchers to deposit previously published articles into their respective institutional repositories as well. (Source: [CAS](#))

China Earmarks 495 mln USD for Key Laboratories

A total of 3.05 billion yuan (495 million U.S. dollars) has been allocated to finance the operation of state key scientific laboratories nationwide this year, the Ministry of Finance (MOF) said on 22 May. Of the total, 2.19 billion yuan will be used for the operation and research of the 259 laboratories, with the remainder targeted for equipment purchases and upgrades. This year's budget was 10.8 percent higher than the 2.75 billion yuan for the same project last year, MOF figures showed. China started to earmark funds for state key scientific laboratories in 2007, and a combined total of 20.38 billion yuan has been allocated to the laboratories. (Source: [CAS](#))

China to publish Arctic sailing reference

China is accelerating its pace in exploring the North Pole by publishing a comprehensive Arctic sailing reference book. The book, comprised of eight chapters and 120 pages, offers detailed information on such facts as Arctic geography, climate, ocean, resources, sailing routes, and related international laws and regulations. The book has passed appraisal by experts and will be published within the year, according to the Navigation Guarantee Center of

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North China Sea under the Ministry of Transport, which compiled the book. Once published, it will be the most comprehensive reference book on the North Pole in China, the center said. (Source: [China Daily](#))

Chinese patent filings abroad on big rise

The World Intellectual Property Organization (WIPO) Friday said in a report that the growth of Chinese patent filings abroad increased significantly since 2000. The report noted that between 2000 and 2005, the average annual growth rate of overseas patent filings reached 40 percent, and remained at 23 percent since 2005. It said more than 80 percent of Chinese foreign-oriented patent families in the 1970-2012 period included at least one patent application with the United States, Europe or Japan. In terms of absolute numbers, the majority of patent applications abroad by Chinese residents targeted the United States with close to 50,000 patent applications between 1970 and 2012, followed by Europe, Japan, the Republic of Korea, and Canada. "Data showing that more and more patent applications from China are being filed outside the country," WIPO spokesperson Edward Harris told reporters on Friday. He said "this can be seen as an increase in the quality of the innovations and inventions in China." Statistics showed almost 70 percent of the Chinese overseas patent families were owned by firms, while the share of universities and research institutes in total patent families is about 6 percent. The report said digital communication, computer technology, nanotechnology, semiconductors as well as telecommunications listed as the fastest growing fields among Chinese foreign-oriented patent families between 2000 and 2009. (Source: [China Daily](#))

8.2 Voices & Opinions

Xi calls for large aircraft to boost power

China must develop its own large passenger jetliner no matter how difficult this may be, President Xi Jinping said. Chinese engineers are struggling to stick to the development schedule, and obstacles have recently pushed back domestic models' maiden flights. Xi made the comments during an inspection of Shanghai's Commercial Aircraft Corp of China, which is working on the C919. He said the country must spare no effort to build a strong manufacturing industry and develop its own large aircraft so China can become a real world power. Standing in front of a crowd of researchers and engineers, Xi said the nation's aviation industry is rising after decades of difficulties. "Now we have made new strides along the path of (developing) large aircraft, and we must — and will — make our own large jetliner." Launched in 2008, the C919 project is the country's latest attempt to break the duopoly of Europe's Airbus and the United States' Boeing. The aircraft is set to compete against the Airbus A320,



the Boeing 737 and the Russian Irkut MS-21. COMAC originally planned for the jetliner to undertake its maiden flight in 2014. But the plan has been postponed due to Chinese engineers' lack of experience and technical obstacles, project officials said. The company's latest timetable says the maiden flight is expected to take place in 2015, with the first deliveries scheduled for 2017. Han Kecen, vice-president of COMAC's Shanghai Aircraft Design and Research Institute, said China developed all the C919's core technologies. Meanwhile, COMAC has begun to manufacture the airframes of the first three C919s that will perform test flights. Assembly of the first one will begin by year-end, COMAC deputy general manager Wu Guanghui said. The company has already received 400 C919 orders from 16 domestic and foreign clients. (Source : [China Daily](#))

8.3 Thematic Activities

Health

China to compile guidebook on traditional Chinese medicine

Chinese experts plan to compile a guidebook for clinical application of ready-made traditional Chinese medicine (TCM) for treating infectious diseases. The project will be carried out by scholars from the State Administration of TCM, China Press of TCM and China Academy of Chinese Medicine Sciences, according to a statement at a conference held in Hangzhou City in east China's Zhejiang Province, which was attended by more than 100 experts. The compiling and publishing of the book is aimed at standardizing the use of TCM, which helped Chinese people overcome plagues in ancient times and has proved effective in treating modern diseases including SARS and H1N1 influenza in recent years, said Yang Hongjun, vice director of TCM institute under the China Academy of Chinese Medicine Sciences. Prepared TCM is ready-made in pill, capsule, tablet, oral liquid or granule form to be taken after being mixed with water. Wang Guiqiang, director of the infectious disease department under Peking University First Hospital, said it is important to establish a quantification model for assessment in the use of TCM in treating infectious diseases. (Source: [Global Times](#))

Scientists Reveal Mechanisms for Superiority of PTX to LPS as Adjuvant for EAE Induction

Multiple sclerosis (MS) is a chronic autoimmune disease of the central nervous system (CNS), characterized by inflammation, demyelination, and axonal



pathology. MS is thought to occur in genetically predisposed individuals following exposure to an environmental trigger that activates myelin-specific pathogenic T cells. Experimental autoimmune encephalomyelitis (EAE) is a mouse model for studying MS. PTX has been widely used as an adjuvant to induce EAE. Given the similarities between the DCs maturation and adjuvant properties of LPS and PTX, the difference for them to induce EAE in vivo is unknown. PhD students ZHOU Haiyan and WANG Yanming, supervised by Dr. SUN Bing at Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences demonstrate that LPS does not induce EAE development as PTX does. They show that DCs treated with PTX (PTX-DCs) are able to induce EAE, whereas DCs treated with LPS (LPS-DCs) fail to induce EAE. (Source: [CAS](#))

Chinese scientists claim H7N9 breakthrough

A human blood protein has been found to be associated with the H7N9 fatality rate, according to a study by Chinese medical scientists. The study, published in Nature Communications on Tuesday, showed that blood plasma levels of angiotensin II are higher in H7N9 patients and could be used to predict their physical deterioration. Angiotensin II is a human protein contained in plasma, the vascular wall, heart and kidney to regulate blood pressure. It is closely linked to acute lung injury. H7N9 patients with higher levels of angiotensin II carry more viral load, said Li Lanjuan, researcher at the Chinese Academy of Engineering and a specialist in H7N9 prevention. "It is particularly obvious in the second week of human infection. The angiotensin II level of patients in critical condition keeps going up, while that of mild cases tends to drop," Li said. Li added the new finding could help in clinical practice. Medical personnel could adopt more effective and reliable treatment measures for patients suffering different conditions. (Source: [China Daily](#))

* * *

Food, agriculture & fisheries, biotechnology

Nutrient-derived Lysophosphatidic Acid Guides Early Hematopoiesis

Primitive hematopoiesis occurs in the yolk sac blood islands, where hemangioblasts give rise to the primitive erythrocytes through asymmetric cell division. Interestingly, a large amount of nutrients such as phosphatidylcholines (PC) also exist in this area to provide energy for the developing embryo. PC is hydrolyzed by the secreted phospholipase A2 into lysophosphatidylcholine (LPC), and LPC can be further hydrolyzed by autotoxin (ATX) into lysophosphatidic acid (LPA). However, whether these lipid molecules can act as developmental cues for hematopoietic development is still unknown. Recently, a team of researchers led by Prof. PEI Gang at the Institute of Biochemistry and Cell Biology (SIBCB), Shanghai Institutes for Biological Sciences, discovered



that LPA is a critical regulator of hemangioblast formation and primitive hematopoiesis. (Source: [CAS](#))

China's Hybrid Rice Set for World Record Yield

The yield of China's new hybrid rice breed has topped 1,000 kg per mu (0.067 hectare), with the country set to break the world record in rice output through large-scale planting, according to a report released on Thursday 22nd of May. After supervised harvesting and weighing 13 days ago, rice breed, Longliangyou 1813, produced a harvest of 937.9 kg per mu in the country's largest southern breeding base in Sanya, Hainan Province. Theoretically, output reached 1081.8 kg per mu as 0.1 mu of rice paddy suffered disease without any output, according to rice researchers in China. "If the diseased rice was in normal condition, the yield would have topped 1,000 kg per mu, setting a new world record," said Guo Shoubin, chief breeding instructor of the new breed's development team. The record yield is the achievement of the fourth phase of China's hybrid rice development program and is made possible by a new high-yield breed, advanced cultivation technology and nanotechnology-supported fertilizer, Guo said. "Given the situation, the goal of achieving a new super rice strain with an expected yield of 1,000 kg per mu will be achieved before 2015," said Yuan Longping, "father of hybrid rice" and leader of the new breed's development team. (Source: [CAS](#))

Foundation, university to train food-safety experts

A foundation in Hangzhou is helping to plant the seeds of food safety amid increasing public concern over the industry. Zhejiang Fuli Charity Foundation, based in the capital of Zhejiang province, is helping to develop technology, train talent and invest in education to support food safety. Zong Fuli, founder of the foundation and president of Hangzhou Hongsheng Beverage Group Ltd, donated 100 million yuan (\$16 million) to cooperate with Xi'an Jiaotong University to set up Fuli Food Science and Engineering College at the university in Xi'an, capital of Shaanxi province. The agreement between the foundation and the university was signed on May 14. In 2011, Zong also donated 70 million yuan to cooperate with Zhejiang University to build the Fuli Food Research Institute in the Hangzhou-based university. "The Food Science and Engineering College will train high-end industrial professionals, support the research and development of food safety and continue to narrow the gap between food and beverage industries in China and foreign countries," Zong said. (Source: [China Daily](#))

Oversight of GM crop samples to be boosted

Genetically modified food research groups in China will strengthen supervision of GM samples following an alleged case of theft at a research base in Hainan province on April 11. A notice from the Ministry of Agriculture last month said stealing the country's GM technology and seed samples could cause



irreparable damage to the nation. Research organizations must pay close attention to this threat, it added. Besides stressing further regulation of GM experiments, the notice requires GM research bases to enhance management and supervision of people and vehicles accessing their premises. It was issued after two campaigners from international non-governmental environmental organization Greenpeace were caught allegedly collecting three packets of seeds and leaves at a research base at Huazhong Agricultural University in Hainan province last month. Greenpeace denied the accusation. Wang Jing, a senior Greenpeace food and agricultural campaigner who was involved in the "field investigation" on April 11, said the samples were collected outside the experimental field to see if surrounding fields were affected. (Source: [China Daily](#))

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Information & communication technologies

NSSC Scientists Proposed Novel Left-Handed Transmission Line

Recently, Dr. YANG Qingshan and Prof. ZHANG Yunhua from the Key Laboratory of Microwave Remote Sensing, the Chinese Academy of Sciences, proposed a novel left-handed transmission line with the advantages of low cost, low profile, miniaturized size and flexible design, and applied it to the miniaturized filters and novel electronic scanning antennas. Left-handed transmission lines have always been a research hotspot and been applied to materials, circuits and antennas in the past decade due to their unique characteristics such as negative phase velocity, negative refraction, etc. (Source: [CAS](#))

Beijing subways to get 4G coverage

Beijing will bring fast 4G Internet connections to all of its subways by the end of July. Passengers will have access to 4G networks on the platforms, in the carriages, at the entrances and in the tunnels, Beijing MTR Corp said on Monday. It said some metro lines, such as Line 4 and Line 9, recently introduced the latest global mobile standard as the city vows to upgrade its network and infrastructure. More than 7.93 million subway trips were made on Sunday, according to the Beijing MTR Corp and Beijing Subway. 4G reached China late in 2013, and many public places are not yet covered by the networks. (Source: [China Daily](#))

Homegrown OS has dim future despite Windows 8 ban

China's operating system (OS) developers gained a boost as Beijing announced a ban on the use of Microsoft's Windows 8 on government



computers, yet there is a long way to go before an indigenous OS can make any tangible changes. According to a statement this week by the Central Government Procurement Center, all desktops, laptops and tablet PCs purchased by central state organs must be installed with an OS other than Windows 8. Although the statement did not clarify why Windows 8 cannot be used, industry experts say the move is mainly because of cyber security concerns. Ni Guangnan, an academician with the Chinese Academy of Sciences, said Windows 8 has integrated antivirus software that frequently scans computers, which means that users of the operating system risk being monitored and national security is at danger when it is installed on government computers. Others say the move also signals that the Chinese government is intensifying support for domestically developed operating systems in the hope that an alternative can be fostered to get rid of the influence of Windows OS. China started to develop its own OS based on Linux in the late 1990s. There are several Linux-based operating systems developed by Chinese companies, such as Kylin OS and StartOS, but the market share of Linux in China is far from satisfactory. Ministry of Industry and Information Technology spokesman, Zhang Feng, told a press briefing last month that the ministry would intensify support for the development and application of Linux OS. (Source: [China Daily](#))

Local satellite system becomes large-scale commercial success

China's domestic-made Beidou navigation satellite system has been put into large-scale commercial use, with its chips embedded in 40 million smartphones, the director of the national satellite navigation said on Wednesday. Ran Chengqi, director of the China Satellite Navigation Office, said that more than 2 million of China's independently developed BDS modules had been sold by the end of March. "The Beidou system has also been adopted in more than 20 vehicle brands in China, which include more than 200 models," Ran said at the 5th China Satellite Navigation Conference. The event in Nanjing, Jiangsu province, was held from Wednesday through Friday. "With the improvement of chip size, power consumption and production cost, the BDS will be more widely used in people's daily lives, both at home and abroad." In addition, more than 300,000 vehicles in the country have been installed with BDS terminals following the Transport Ministry's stipulation in 2013 that all bus tour charters and vehicles carrying hazardous materials should have them. Beidou is the Chinese name for the constellation The Big Dipper, which has been used by people since ancient times to tell direction. China launched its first BDS satellite in 2000. The country now has 16 satellites and will launch newer navigation satellites near the end of this year, the satellite navigation office said. While the satellites in use have a life expectancy of about eight years, the newer navigation satellites are expected to work for up to 15 years. (Source: [China Daily](#))



China's domestic navigation system guides Pakistan

China's domestically made Beidou navigation system has set up a network in Pakistan, the first in a foreign country, the company said Thursday 22 May. Beidou was co-developed by China Great Wall Industry Corporation and the Beijing UniStrong Science & Technology Co., Ltd. The first stage of Pakistan's geographic positioning network has been finished, Shen Jun, chief scientist of UniStrong, said at the annual China Satellite Navigation Conference in Nanjing. The network includes five base stations and one processing center, covering Karachi. It can provide positioning with a precision of 2 centimeters, while the precision can reach 5 millimeters after post processing, and can help in urban planning, surveying and mapping, environmental supervision, disaster relief, traffic monitoring and other fields. Shen Jun said the second stage of the network will cover the whole of Pakistan and be the first national high precision Beidou navigation network abroad. (Source: [China Daily](#))

China's BeiDou system standard ratified by IMO

The International Maritime Organization has ratified the performance standard of a receiver of the shipborne BeiDou Navigation Satellite System (BDS), the Ministry of Transport revealed Wednesday 21st of May. This is the first BDS to be standard approved by an international organization. It marks the first step for China's home-grown system in its quest to go global, according to the ministry. The move is key to the application of BDS in the international maritime field and its industrial development, the ministry said. The first satellite for the BDS plan was launched in 2000. China wants to expand the regional navigation system to global coverage by around 2020. Also on Wednesday, BDS spokesman Ran Chengqi said at a symposium in Nanjing that China has started the last phase of the BDS development plan, and is expanding the system's market share at home. As of the end of March, the sale of BDS/GNSS (Global Navigation Satellite System) modules exceeded two million, Ran said. (Source: [China Daily](#))

Quantum communications leap out of the lab

China begins work on super-secure network as 'real-world' trial successfully sends quantum keys and data. Cybersecurity is a step closer to the dream of sending data securely over long distances using quantum physics — spurred by two developments. End of April, China started installing the world's longest quantum-communications network, which includes a 2,000-kilometre link between Beijing and Shanghai. And a study jointly announced also end of April by the companies Toshiba, BT and ADVA, with the UK National Physical Laboratory in Teddington, reports "encouraging" results from a network field trial, suggesting that quantum communications could be feasible on existing fibre-optic infrastructure. Conventional data-encryption systems rely on the exchange of a secret 'key' — in binary 0s and 1s — to encrypt and decrypt information. But the security of such a communication channel can be undermined if a hacker 'eavesdrops' on this key during transmission. Quantum



communications use a technology called quantum key distribution (QKD), which harnesses the subatomic properties of photons to “remove this weakest link of the current system”, says Grégoire Ribordy, co-founder and chief executive of ID Quantique, a quantum-cryptography company in Geneva, Switzerland. The method allows a user to send a pulse of photons that are placed in specific quantum states that characterize the cryptographic key. If anyone tries to intercept the key, the act of eavesdropping intrinsically alters its quantum state — alerting users to a security breach. Both the US\$100-million Chinese initiative and the system tested in the latest study use QKD. (Source: [Nature](#))

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Nanosciences, nanotechnologies, materials & new production technologies

Researchers Report Metal-organic Frameworks Based on Flexible Ligands

Metal-organic frameworks (MOFs) are emerging as an important family of porous materials not only because of their intriguing network topologies but also exploitable properties for potential applications such as gas adsorption and separation, catalysis, luminescence, sensing, proton conduction and etc. Their crystalline nature, high and permanent porosity, uniform pore sizes, extraordinary surface areas, finely tunable pore surface properties, and potential scalability to industrial scale have made these materials an attractive target for further study. Recently, the research group headed by Prof. CAO Rong at Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, reported metal-organic frameworks based on flexible ligands (FL-MOFs) in *Chemical Society Review* ([doi: 10.1039/C3CS60483G](https://doi.org/10.1039/C3CS60483G)). (Source: [CAS](#))

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Environment (including climate change)

Qinghai-Tibet Plateau Glaciers Shrink 15 pct in 30 yrs

Southwest China's Qinghai-Tibet Plateau, the major source of the country's largest rivers, has seen its glaciers shrink rapidly over the past 30 years, a national research institute revealed on 22 May. According to the Institute of Tibetan Plateau Research of the Chinese Academy of Sciences (CAS), glaciers on the plateau and surrounding areas have shrunk by 15 percent from 53,000 to 45,000 square kilometers over the past three decades. As the highest place in the world's mid-latitude regions, the plateau is more likely to be affected by global warming. (Source: [CAS](#) via Xinhua)



Tibet mountainous long before Himalayas

The Tibetan Plateau supposedly rose as the Indian continent smashed into Eurasia about 50 million years ago. But the latest study of fossils and oxygen isotopes in the region's rocks shows that parts of southern Tibet were already as tall as they are today before the collision. The findings challenge the conventional wisdom of what happens when continents collide, and because of the role of mountains in weather systems, also imply that the Asian monsoons could have been going on for much longer than previously assumed. The Tibetan Plateau covers an area about one-quarter as large as the United States, with an average elevation of 5,000 metres. To the south, it is ringed by the Himalayas, which include the highest peaks in the world. How and when such a gigantic region rose up has been a matter of intense debate for decades. To get a glimpse of topography of ancient Tibet, a team led by Ding Lin, a geologist at the Chinese Academy of Sciences' Institute of Tibetan Plateau Research in Beijing, analysed 55-million-year-old rocks from the Linzhou Basin, about 50 kilometres northeast of Lhasa in Tibet. (Source: [Nature](#))

China Comes to Grips with Poisons Underfoot

Pollution that is easily perceptible in China's rivers and urban air has gotten a lot of attention in recent years. Now a less obvious environmental concern with equally serious repercussions – soil contamination – is getting the attention it deserves thanks to a first-of-its-kind nationwide study that documents a heavy toll on China's farms, forests and grasslands. Eight years in the making, the Nationwide Soil Pollution Investigation Report released in April by the Ministry of Environmental Protection (MEP) and the Ministry of Land Resources (MLR) includes alarming statistics that underscore the damage done to cultivated and uncultivated land nationwide. Some 16.1 percent of all soil samples collected in regions around the country were found to contain unacceptable levels of pollutants, the report said. The survey indicated that up to 19.4 percent of all cultivated land – an estimated 26 million of the 133 million hectares of arable land nationwide, based on government figures – has been contaminated. One of the most serious threats posed by the soil contamination problem is that rice is being grown in cadmium-laced paddies, according to the report. (Source: [Caixin](#))

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Energy

Leader in coal-processing technology looking for foreign cooperative deals

Shanxi University, which has had an instrumental role in local industrial upgrades and the promotion of traditional Chinese culture, is now gearing up to increase its international exchanges. Founded in 1902 and one of modern China's oldest educational institutes, the university has taken the transformation of the coal industry in the North China province as an opportunity to rejuvenate its scientific research and talent cultivation. With resource-dependent industries such as mining and thermal power generation dominating its economic growth, Shanxi constantly saw its reputation tarnished by media reports on heavy air pollution, coal mining accidents and the extravagance of coal business owners. Trying to change those negative images, Shanxi University has focused on improving its scientific research and talent cultivation in disciplines related to environmental engineering, ecological restoration and coal waste reprocessing. For instance, the School of Environment and Resources has attracted 56 qualified faculty members including 16 PhD holders, and has accumulated 270 sets of teaching and research equipment worth 830 million yuan (\$133 million). Scientific products including water purifying agents and clean combustion improvers made of solid coal-burning waste have broken the technology monopolies of foreign companies while creating added value for the coal industry. Despite its progress in coal industry science, Shanxi University still struggles in the ranks of top-notch universities due to a lack of policy support and international exposure, its president Jia Suotang said. Jia said that the next major task in his tenure is to implement multiple cooperation deals with foreign institutes offering mutual faculty and student exchange programs. (Source: [China Daily](#))

China produces first AP1000 steam generator

China's latest steam generator passed its final tests on Wednesday afternoon, a milestone for China's nuclear power industry. The generator weighs 620 tonnes and is a key part of AP1000, a third generation nuclear power technology, said Gao Feng, deputy chief engineer of Harbin Electric Corporation (Qinhuangdao) Heavy Equipment Company Limited. China has officially adopted AP1000 as a standard for inland nuclear projects. Construction began on the generator in March, 2011. It has a designed life span of 60 years and can cool itself for 72 hours in case of a power failure, said Gao. Currently 19 nuclear reactors are in operation and 29 are under construction in China. (Source: [Global Times](#))

Chinese political advisors brainstorm on UHV electricity transmission

Chinese political advisors on Thursday 15 May discussed ways to extend the country's ultra-high voltage (UHV) system to boost its electricity transmission capacity from energy-rich regions to areas that are short of power. Speaking at



a symposium held by the National Committee of the Chinese People's Political Consultative Conference (CPPCC), attendees suggested ways to improve UHV power transmission technologies and speed up the building of electricity grids across the country. The symposium, presided over by Yu Zhengsheng, chairman of the CPPCC National Committee, is a regular event for members from various fields and backgrounds -- mainly those from non-Communist parties or with no political party affiliation -- to discuss and propose ideas. With the consensus that the UHV power transmission network is vital to national energy security and environmental protection, attendees called for efforts to extend the UHV system to boost electricity transmission capacity. (Source: [Global Times](#))

Chinese experts call for inland nuclear power plants

Chinese experts are suggesting inland regions as likely locations for new nuclear power plants for both safety and resource reasons. "Inland nuclear power plants have the same safety standards as their coastal counterparts," said Pan Ziqiang with the Chinese Academy of Engineering (CAE), Wednesday 14 May at a forum on the sustainable development of nuclear power. Chinese nuclear power plants, including those under construction, are all located in coastal areas, while almost half of nuclear power plants in the world are inland. CAE academician Ye Qizhen noted that nuclear power plants might benefit the inland as they offer an energy alternative for many regions, especially coal-rich provinces with environmental problems. China currently has 19 nuclear power units with a total capacity of 17 million kilowatts. In the first quarter of this year, they generated 26 billion kilowatt hours of electricity, or 2.04 percent of the country's total. (Source: [Global Times](#))

China to establish national geothermal association: expert

China is to establish a national association to promote geothermal resources, according to a forum held in east China's Jiangxi Province on Tuesday 13 May. To ease pressure on energy and resources, and improve the environment, the Ministry of Land and Resources is taking the lead in the association, said Wang Bingchen from the Counselors' Office of the State Council, at the forum in Xinyu City. With technological breakthroughs in geothermal exploration, power pumps and electricity generation, China's geothermal power industry will be booming again, said Mao Rubai, former chairman of the Environmental Protection and Resources Conservation Committee of the National People's Congress. He said geothermal energy will supply heating for 500 million square meters nationwide and raise geothermal generating capacity by 100,000 kilowatts as of 2015. Juliet Newson, president of the International Geothermal Association, said at the forum that they hope to expand cooperation with China in the future. "A national geothermal association in China will help promote international academic exchanges and technological innovation," Newson said. (Source: [Global Times](#))



China to set up nuclear emergency team

China is working to form a 300-member state-level rescue team specialized in nuclear emergencies, said a senior official on May 12. This team will respond to "serious nuclear accidents in complicated circumstances", said Yao Bin, head of the nuclear emergency and security division under the State Administration of Science, Technology and Industry for National Defence (SASTIND). The SASTIND and the General Staff Headquarters of the People's Liberation Army (PLA) are jointly working on this program, which is set to be finished by 2015, Yao said. At the central level, 27 civilian and military departments make up of a coordination commission for nuclear emergencies, with the SASTIND taking the lead. The national nuclear emergency response office is run by the SASTIND. Also, 16 provinces, municipalities and autonomous regions have set up provincial nuclear emergency commissions. The central government also has four state-level technical support centers and six rescue teams of smaller size, Yao said. (Source: [Global Times](#))

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Transport (including aeronautics)

Scientists finalize test platform for ultra-speed maglev train

Chinese scientists have built the world's first prototype testing platform for an ultra-high-speed vacuum maglev train, which theoretically could hit speeds up to 2,900 km per hour, or almost three times the speed of a passenger jet, researchers confirmed on 14 May. Running the maglev train in a near-vacuum environment is the best way to ensure the comfort and energy economy of an ultra-high speed train, said Deng Zigang, head of the project team based in Southwest Jiaotong University in Sichuan's capital Chengdu. When a train's speed reaches 400 km per hour or above, Deng said, more than 83 percent of the traction is wasted to offset air resistance and the aerodynamic noise is over 90 db, higher than the 75 db set by design standards. Southwest Jiaotong University developed the initial high temperature superconducting magnetic levitation test loop in March 2013, and the latest model had the vacuum pipe that became the world's first evacuated tube transport system. (Source: [China Daily](#))

Chinese experts 'in discussions' over building high-speed Beijing-US railway

China is considering plans to build a high-speed railway line to the US, the country's official media reported on 8 April. The proposed line would begin in north-east China and run up through Siberia, pass through a tunnel underneath the Pacific Ocean then cut through Alaska and Canada to reach the continental US. Crossing the Bering Strait in between Russia and Alaska would require



about 200km (125 miles) of undersea tunnel, the paper said, citing Wang Mengshu, a railway expert at the Chinese Academy of Engineering. The project – nicknamed the "China-Russia plus America line" – would run for 13,000km, about 3,000km further than the Trans-Siberian Railway. The entire trip would take two days, with the train travelling at an average of 350km/h (220mph). The reported plans leave ample room for skepticism. No other Chinese railway experts have come out in support of the proposed project. Whether the government has consulted Russia, the US or Canada is also unclear. (Source: The [Guardian](#))

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Socioeconomic sciences & the humanities, archaeology & paleontology

China inaugurates first environmental court

A special court for environmental cases was opened on Friday 23rd of May in East China's Fujian province. It is the country's first such specialized judiciary organ. The court affiliated to the Fujian Provincial Higher People's Court has recruited 12 environmental, agricultural, marine and mineral experts as technical consultants. Entrusted by the court, the consultants can appear in court as litigation assistants to provide technical consultation and interpretation. Wang Chengquan, deputy chief justice of the high court, said Fujian was approved as China's first "ecological civilization demonstration zone" in April to explore and pilot judicial protection of the environment. Since 2009, several county and city-level courts in the province have experimented in setting up divisions specializing in forestry, mining, water and resources, atmosphere and water pollution cases. (Source: [China Daily](#))

Ancient ship tells stories of Maritime Silk Road

With the excavation of the wreck of an ancient Chinese merchant ship, archaeologists expect to find a trove of historical relics, unveiling more details of the Maritime Silk Road. The first phase of the excavation of the vessel, Nanhai No. 1, will finish at the end of this month, Sun Jian, technical director of the Underwater Cultural Heritage Protection Center of the State Administration of Cultural Heritage, told Xinhua on Wednesday. "We will launch the next phase in October," Sun said. The 30-meter-long vessel was hoisted from a depth of 30 meters below the surface of the South China Sea in late 2007. Since then, it has been submerged in a sealed pool, dubbed the "Crystal Palace," at the Maritime Silk Road Museum in Yangjiang in south China's Guangdong Province. Sun said it would take three more years to fully complete the excavation work. First discovered in 1987 off the coast near Yangjiang, Nanhai No.1 dates back to the Southern Song Dynasty in the 13th century and is



recognized as one of the oldest and biggest merchant boats ever sunk in Chinese waters. (Source: [Global Times](#))

New discoveries in Chinese oracle bones

Chinese archeologists have discovered new forms of the earliest Chinese characters and rare human skull oracle bones in their latest study of thousands of ancient inscribed animal bones and tortoise shells, they announced on Thursday 15 May. The discoveries include new forms of two Chinese characters, Gou and Shou, and special tortoise shells with military tokens. Archeologists also found two rare pieces of human skull oracle bone, an oracle bone recording a sacrifice ritual with 300 cattle, and a large tortoise back shell measuring 48 cm in length. The findings were made in a joint research and conservation project between the Shandong Museum and the CASS. Staffers have handled 7,541 inscribed animal bones and tortoise shells since the program started in December. The project will last four to five years. With a collection of 10,588 inscribed animal bones and tortoise shells, Shandong Museum is one of the most important institutions in the research of such materials. (Source: [Global Times](#))

'Pinocchio Rex,' China's New Dinosaur

Scientists have discovered a new species of dinosaur, a relative of the ferocious Tyrannosaurus rex, according to a report in Nature Communications. The story of the discovery of the 30-foot-long Qianzhousaurus sinensis, which began more than three years ago in a construction site in southeastern China, is one of drama and luck, as well as science. In their paper published this week, Lu Junchang of the Institute of Geology at the Chinese Academy of Geological Sciences, Stephen L. Brusatte of the University of Edinburgh and their four co-authors call the find "a remarkable new species of long-snouted tyrannosaurid." In Chinese, tyrannosaurids are called "despotic dinosaurs" for their fierceness. (Source: [NY Times](#))

4,000-year-old irrigation system unearthed in SW China

An ancient irrigation system that dates back 4,000 years has been unearthed in Chengdu of southwest China's Sichuan Province, according to the city's municipal museum on Thursday 8 May. The system, with a 147-meter-long bank protection dam, was discovered at a real estate construction site in Wenjiang District of the city. The dam is 14 meters wide at the bottom, 12 meters at the top and 1.3 meters high with eight grooves dug by hand. Five house relics and 54 tombs were discovered on the east side of the dam, which proved that the dam was built to protect the community, according to the museum. The dam is the earliest irrigation system in the areas along the upper reaches of the Yangtze River, said Wang Yi, curator of the museum. It is 2,000 years older than the Dujiangyan irrigation system, also near Chengdu and a world cultural heritage site, he said. (Source: [Global Times](#))



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Space

The First Building Blocks of the Universe

The first galaxies evolved only a few hundred million years after the Big Bang. But why do they have such a great variety of shapes and structures? How did the universe evolve as a whole? Two German-Chinese Partner Groups at the Max Planck Institute for Astrophysics in Garching are using observations and simulations to investigate how the early universe evolved: Cheng Li and Guinevere Kauffmann, as well as Liang Gao and Simon White. They can be large or small, red or blue, extremely massive or just bright, can be individuals or simply follow the crowd: The galaxies in the universe come in almost all conceivable shapes and sizes. The cosmological standard model, which describes the evolution of the universe, does not really provide for such a variety, however. The theory states only that minute density fluctuations shortly after the Big Bang must have been responsible for distributing the mass and energy in the universe. (Source: [CAS](#))

Nearest Bright 'Hypervelocity Star' Found

A University of Utah-led team discovered a "hypervelocity star" that is the closest, second-brightest and among the largest of 20 found so far. Speeding at more than 1 million mph, the star may provide clues about the supermassive black hole at the center of our Milky Way and the halo of mysterious "dark matter" surrounding the galaxy, astronomers say. "The hypervelocity star tells us a lot about our galaxy - especially its center and the dark matter halo," says Zheng Zheng, an assistant professor of physics and astronomy and lead author of the study published recently in *Astrophysical Journal Letters* by a team of U.S. and Chinese astronomers. Zheng and his colleagues discovered the new hypervelocity star while conducting other research into stars with the Large Sky Area Multi-Object Fiber Spectroscopic Telescope, or LAMOST, located at the Xinglong Observing Station of the National Astronomical Observatories of China, about 110 miles northeast of Beijing. (Source: [Space Daily](#))

New weather satellite boosts forecast

China is boosting its weather forecast and natural disaster prevention capacity with a new weather satellite delivered to the China Meteorological Administration on Monday. "FY-3C, a polar orbiting meteorological satellite, marks a milestone for China's meteorological satellite development, making China one of the most advanced countries in this field," said Zheng Guoguang, director of the administration. The delivered satellite will replace FY-3A, the test satellite launched in 2008, and provide global air temperature, humidity profiles



and meteorological parameters such as cloud and surface radiation required in producing weather forecasts. The FY-3C satellite, designed to last five years, carries 12 remote sensing instruments, including microwave temperature and humidity sounders and GNSS occultation detectors, a new payload for the global three-dimensional and vertical soundings of the atmosphere. The satellite, launched in September from the Taiyuan Satellite Launch Center in Shanxi province, will be the country's 13th weather satellite launched since 1988. Yu Rucong, CMA's deputy director, said the US also plans to have operational data exchanges with the FY-3 series. Although 10 additional satellites will be in operation by 2020, Yu is not satisfied, saying the CMA will begin drawing a new national meteorological development plan late this year for 2021 to 2030. (Source: [China Daily](#))

China tests bioregenerative life support module

Three Chinese volunteers on Tuesday ended an experiment that saw them live for 105 days in an enclosed capsule, eating only laboratory-grown plants and insects. This was China's first manned test of the "Moon Palace 1," a 500-cubic meter module that is China's first and the world's third bioregenerative life support base. The closed lab set on the campus of Beihang University is a virtual biosphere, where people can provide food for themselves by cultivating grain, vegetable, fruit and insects. The system can also produce water and fertilizers, process waste and revitalize air. Liu Hong, chief designer of the system, which features a cabin and two plant cultivation labs, said it is a miniature version of the Earth's biosphere. It can help make it possible for astronauts to live safely in space stations without any deliveries of supplies for long periods. Liu said the research team selected five grains, 15 varieties of vegetable, one kind of fruit as well as a yellow mealworm, which provided protein for the volunteers during the experiment. It is hoped that the life support system can further facilitate China's manned space mission. (Source: [Global Times](#))

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People & Higher Education

Nobel winners aim to inspire Chinese youth

Top Chinese scientists, who have traditionally focused on research and teaching at universities, are being encouraged by Nobel Prize winners and other top scientists from around the world to inspire young people and increase their interest in science. Nobel Prize winners Erwin Neher of Germany and Shing-Tung Yau of the US gave speeches on Saturday 24 May about brain research and advances in science at the 16th annual meeting of the China Association for Science and Technology. "Such talks are common in Germany, but fresh to me in China," said Erwin Neher, winner of the Nobel Prize in



physiology or medicine for 1991. The meeting provided a rare platform for Chinese students to interact with Nobel Prize winners. Popular science was one of the main topics at this year's meeting, to which 108 Chinese academicians, four Nobel Prize winners and about 4,000 domestic and foreign scientists from 25 countries were invited. The China Association for Science and Technology is the largest national non-governmental organization of scientific and technological workers in China. The organization maintains close ties with millions of scientists, engineers and other people working in the fields of science and technology. (Source: [China Daily](#))

Online courses increasing in popularity

When Zhang Yang went on maternity leave last April, she also signed up for an online learning course. While looking after her 1-year-old takes up most of her time now, Zhang is happy to continue her online classes in art history with Peking University. "I've found the course quite fascinating as I also took the subject in college," she said. "Plus, class discussions can be quite interesting because sometimes you discuss the topics with people from different parts of the world." Massive Open Online Courses - which involve widespread participation and open access through the Internet - were initiated in the West. However, users in China now form one of the largest student groups. On April 29, 2014, the Ministry of Education set up its xuetangX.com online education center under Tsinghua University. This online course platform is based on edX, which was jointly established by Harvard University and the Massachusetts Institute of Technology in 2012. Tsinghua University started to work with and provide courses to edX in May 2013, and launched its first series of online courses in October. So far, the university has provided 25 online courses, first through its own website and now through xuetangX.com. The platform has more than 120, 000 registered users. (Source: [China Daily](#))

Lenovo CEO Wins Edison Achievement Award

Yang Yuanqing, CEO of Chinese computer technology company Lenovo, has received the Edison Achievement Award. Hailing from China, he is the first honoree based outside North America. The Edison Achievement Award is part of the Edison Awards, which constitute one of the most prestigious accolades honoring excellence in new product and service development, marketing, human-centered design and innovation. Yang was honored as a distinguished business executive who has made a significant and lasting contribution to innovation. Despite his achievement and his company's success, Yang emphasized the importance of the real impact of innovation. The other recipient of the Edison Achievement award is Elon Musk, who is founder of Tesla Motors and Space Exploration Technologies. Past recipients of the award include Apple's Steve Jobs and Qualcomm's Paul Jacobs. (Source: [Asian Scientist](#))



Chinese Scientist Wins International Materials Science Prize

Xu Chunye, Professor at Hefei National Laboratory for Physical Sciences at the Microscale, has been awarded the International Materials Science Prize at the World Forum on Advanced Materials. She is the first Chinese scientist to receive the award. A researcher for 20 years, Professor Xu has studied the synthesis and fabrication of functional materials, which have applications in sunglasses, sensors and actuators. She has over 20 patents, some of which have been transferred to industrial companies such as US corporation 3M and Japan's Toyookohan. Established in 2007 by the World Forum on Advanced Materials in the US, the International Materials Science Prize honors individuals who make distinguished contributions to fundamental and application aspects of macromolecule physics and chemistry. It also aims to facilitate the development of polymer science by cultivating research talents and encouraging scientific innovations. (Source: [Asian Scientist](#))

Peking Univ raises funds from alumni

A charity auction featuring 12 high-value items donated by alumni was the highlight of the Peking University Alumni Association of Southern California's 2014 Convention held on Saturday in California. The lots on the block included calligraphies, tea sets, photographs, Chinese seals and other artwork. The most expensive item was a work of xiaokai, a form of kaishu scripts. Shiyi Chen, vice-president of Peking University and dean of the graduate school there spoke about the future of the university and praised alumni's contributions in helping make it the best university in China. Shiyi described two new projects the university had underway - an Oceanography Academy in Hainan and the relaunch of Yenching Academy, which was established in 1916 and merged to Peking University in 1952. Yenching Academy will offer students a one-year master's degree in Chinese Studies. About 35 percent of the students will be Chinese with the rest from 50 countries around the world. Peking University will offer full scholarships. (Source: [China Daily](#))

Foreign Campuses in China: What are the tradeoffs?

As China's prominence in the world grows, increasing numbers of international students are considering a first degree in China as a realistic option. Study abroad programs and joint degrees through Western universities are already very common. Doing a full Master's degree in China has also been an increasingly normal phenomenon for international China scholars for many years, an idea made popular by the now-famous Hopkins Nanjing program. However, there has recently been an increase in the number of international students who are considering opting out of doing their main undergraduate study in their home country, but rather completing the full program in China, through renowned, international universities- and supply is beginning to follow demand. (Source: [China Brain](#))



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Research infrastructures

Sino-Nepal Joint Research Center for Geography Launched

The Sino-Nepal Joint Research Center for Geography was inaugurated in Tribhuvan University, Nepal (TU) on April 28, 2014. The center, jointly build by the Institute of Mountain Hazards and Environment, Chinese Academy of Sciences (IMHE) and TU, takes the south and north slope of the Himalayas as research areas to carry out geography research of mountain hazards, mountain ecology and environment monitoring and mountain development. It aims to train more talents specializing in mountain geography, promote research ability of related fields in Nepal, and make contributions to promoting China's scientific and technological influence power and science and technology exchange and cooperation between China and Nepal. (Source: [CAS](#))

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International S&T relations

Sino-Germany "Science Tunnel" exhibition opened in Beijing

An exhibition of China's latest nano-tech achievements opened last 13 May in Beijing's Science and Technology Museum. The exhibition, a sub-programme of "Science Tunnel 3.0", is co-sponsored by the Chinese Academy of Sciences (CAS), the Max Planck Society (MPS) of Germany and the China Association for Science and Technology, and will remain open until June 28. On display are large-format images and video clips from cutting-edge science projects on nano technology, such as green printing, diagnosis and treatment integration and oncology drugs. Science Tunnel 3.0, started in 2012, falls into eight themes -- the brain, complexity, energy, health, life, matter, society and the universe -- and speculates how science change lives in the coming decades. Science Tunnel was seen for the first time during the World EXPO 2000 in Hannover, Germany. Cooperation between the CAS and the MPS began with the MPS offering a few guest researcher posts for Chinese scientists in 1974. Four decades have witnessed the cooperation developed from Chinese researchers' sporadic advanced studies in Germany to a comprehensive academic interchange involving 800 people a year. The MPS has 33 partner groups in China. For example, Chinese and German scientists joined in the research of severe acute respiratory syndrome virus (SARS) in 2003. (Source: [Global Times](#))

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