

Quarterly
Newsletter
Issue 1
2017



euraxess
RESEARCHERS IN MOTION

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EURAXESS China

Dear readers,

Welcome to this edition of our quarterly newsletter, the first issue of 2017.

In this edition's **"In Focus"**, we put the spotlight on **Estonia**. In addition to exploring their excellent research system and funding opportunities for foreign researchers we also take a look at their extensive research collaboration with China. To demonstrate a successful collaboration, we hear from [Chinese PhD student Shuai Li](#) in Estonia.

This quarter's **"Hot Topic"** is the 10 Year Anniversary of the European Research Council (ERC), including a comprehensive overview of different funding schemes and foreign participation in the ERC. The second week of March was marked as a week of celebration for the European Research Council in Europe. With [140 events across Europe and beyond](#) to celebrate, EURAXESS China contributed with an event that was held at the EU Delegation to China and Mongolia in Beijing. Take a look at the [pictures and videos](#).

In our **"Meet the Researcher"** interview, we interview Prof. Feng Gao who is a Chinese national working at Linköping University in Sweden and recipient of an ERC starting grant researching a new generation of LEDs. He will give us some tips for how to apply for an ERC grant and recommendations for Chinese nationals interested in such.

Best regards

EURAXESS China team



Estonia is a small North European country. It has been a member of the European Union since 2004.



Promotional page about Estonia is www.estonia.ee.



[University of Tartu](http://www.ut.ee)



[Research in Estonia](http://www.research-estonia.ee) initiative carries out International marketing activities with the aim to introduce Estonian research on an international level and for international audience. The portal offers information and news for professionals, scholars, and students interested in research opportunities in Estonia.

The [Estonian Academy of Sciences](http://www.ea.ee) is an umbrella organisation uniting researchers, scholars and intellectuals.

1 EURAXESS Country in Focus: ESTONIA – a place for independent minds

Did you know that Skype was programmed in Estonia in 2003? Or that Estonia has used legally binding digital signatures since the year 2000? These facts illustrate the innovative attitude of the small North European country called Estonia perfectly. Estonia has an attractive environment for research, top-level infrastructure, a collaborative research community and excellent research achievements.

Research and Development in Estonia

Estonian researchers are good partners in international collaboration projects and the number of international co-publications is rising. Research in Estonia is becoming more international as the number of foreign researchers from 2005 to 2014 has increased **sevenfold** [1]. The impact of papers authored by Estonian researchers is growing rapidly; average citations per paper exceed the Thomson Reuters' Essential Science Indicators (ESI) mean citation rate by 5% [2].

There are 20 R&D institutions in Estonia, including [6 public universities](#) where most research is performed. The leading scientific institution in Estonia is the [University of Tartu](#).

The ratio of total R&D expenditure to GDP in 2015 was 1.5%, with nearly half of R&D expenditure in 2015 coming from the state budget [3].

Research Excellence in Estonia

Biological sciences are at the forefront of Estonian research – 2/3 of the top researchers (among 1% most cited in their field worldwide) who are affiliated with an Estonian research institution are **biologists** and **ecologists** [2]. Each Estonian paper published in environment/ecology and plant and animal science receives about 40% more citations than papers in these fields in general. Additionally, clinical medicine, molecular biology and genetics, physics, pharmacology and toxicology, and psychiatry/psychology are also above global average [2].

There are 9 [Research Centres of Excellence](#) in Estonia, composed of **internationally highly regarded research groups**. Featured topics are: terrestrial ecosystems in the context of global change from molecular to biome-level responses, genomics and translational medicine, information and communication technologies (ICT), molecular cell engineering, space studies.

[1] <http://www.stat.ee/science-technology-innovation> [2] <http://blog.ut.ee/how-successful-is-estonian-science/> [3] <http://www.stat.ee/news-release-2016-132>

EURAXESS – Researchers in Motion is an initiative of the European Research Area (ERA) that addresses barriers to the mobility of researchers and seeks to enhance their career development. This pan-European effort is currently supported by 40 countries, of which we will profile one in our quarterly e-newsletter. In this edition, we zoom in on Estonia



How Skype started in Estonia, read [The Story of Skype](#)

[e-Estonia – The Digital Society](#)

[Enterprise Estonia](#) supporting and advising entrepreneurs



The main funding body is the [Estonian Research Council](#).



Information and support for incoming researchers on [EURAXESS Estonia](#)

Estonian R&D Strategy

The Estonian R&D strategy document **Knowledge-based Estonia 2014–2020** outlines four objectives: 1) Research in Estonia is of high level and diverse 2) RD functions in the interest of Estonian society and economy 3) RD makes the structure of economy more knowledge-intensive 4) Estonia is active and visible in international RDI cooperation. The strategy foresees that by 2020 investments in R&D **will reach 3% of GDP** [4].

Entrepreneurship and Innovation

Innovation and the start-up ecosystem in Estonia are growing rapidly. Notable recent success stories backed by R&D in the IT field include [Skype](#), [TransferWise](#), [Lingvist](#), [Starship Technologies](#) and [Guardtime](#).

Estonia is standing out as a **digital society**. We have developed highly innovative and practical solutions for digital **public services** including online tax-declarations (in use since 2000), digital signatures (2000), online voting (2005), digital recipes (2010), and most recently the e-residency (2016) for anyone in the world (you can become an [e-resident](#) of Estonia in order to register your business in Estonia).

[Competence Centres \(8\)](#) are designed to improve the competitiveness of enterprises through strategic cooperation between Estonian science, industry and the public sectors. Main topics are health and food technologies and ICT services.

[Enterprise Estonia](#) promotes business and provides financial assistance, counselling, cooperation opportunities and training for entrepreneurs, research institutions and the public and non-profit sectors.

Funding and Recruitment Opportunities

Research in Estonia is primarily financed on the basis of **quality competition**. Financing comes from the state budget, foreign funds (mostly EU H2020 and other means) and companies. The [Estonian Research Council](#) is the principal funding body of R&D in Estonia, consolidating different grants and types of funding and giving research more visibility within society. There are also several **mobility grants**. [Click here](#) for the funding calls.

As most research is performed in the public universities, most research jobs are also available in public universities. PhD students are regarded as students and receive a monthly scholarship.

Important Information for Incoming Researchers

[EURAXESS Estonia](#) provides information and support to international researchers for free. We provide information about **entry conditions**, visas and **residence permits**, Estonia in general, the Estonian research landscape, **job & funding offers**, events for researchers and much more!

See [Estonian Embassy in Beijing](#) and all [Estonian embassies and representations](#) around the world.

[4] Estonian Research and Development and Innovation Strategy 2014-2020 “Knowledge-based Estonia”



[Asian Research Centre in Estonia](#) a project based effort by three leading Estonian universities – **Tallinn University, University of Tartu and Tallinn University of Technology** – to bring together all contemporary Asia related research and activities in Estonia.

The Centre serves as a platform for cross-sector cooperation between a range of actors from academia and civil society to state and entrepreneurs to facilitate knowledge transfer, research and network building, aimed at strengthening the relationship between Estonia and Asia. It is an umbrella for the listed universities' individual research centres on Asia.



See [Estonian Research Council](#) portal for funding calls in Estonia.

Authors: Hanna Raig,
EURAXESS Estonia and
Tallinn University

Research collaboration with China

Research collaboration between Estonia and China is mostly based on relations between researchers with particular interest on a specific topic but also through bilateral agreements and participation in European Union – Asia cooperation formats. Many researchers have individual research projects in Estonia with Chinese partners without institutional collaboration. There are also several state level agreements between Estonia and China. For example, the Agreement between the governments of the Republic of Estonia and The People's Republic of China on collaboration in science and technology was signed in 1992. In 2015 an agreement between the countries' ministries of education was signed for recognition of qualifications in higher education up to the doctoral level. In the Estonian strategy for internationalisation of higher education 2016-2020, China is one of the target countries from where Estonia welcomes international students.

[University of Tartu](#), [Tallinn University of Technology](#), [Tallinn University](#) as well as [Estonian University of Life Sciences](#) have partner universities from China. The University of Tartu is active in cooperating with China in various fields, including economics, chemistry, international relations and social sciences more generally, with plans to engage in more collaboration in biology, material sciences and environmental sciences. Tartu Science Park has longstanding cooperation with Tsinghua University's Technology Transfer Center. Tallinn University of Technology has put special focus on ICT programmes and has organized seminars in Shanghai with Shanghai Jiao Tong University and other partners including companies (Microsoft, Ericsson, Huawei). At Tallinn University several Asian studies programmes and the [Confucius Institute \(CITU\)](#) are based.

In 2014, the [Asian Research Centre in Estonia](#) was launched in cooperation between Tallinn University, University of Tartu and Tallinn University of Technology. The Centre brings together academia, the state and state-funded actors, entrepreneurs and civil society to foster knowledge transfer and strengthen Estonian competitiveness in Asia. To promote collaboration with Asian countries the Centre organizes various events and seminars.

Funding tools

Funding is key to conducting research on Asia due to the costs of travel (fieldwork, meetings, conferences etc.) involved. The most often used funding options available are the grants offered by the Estonian Research Council; Cultural Endowment of Estonia; the European Commission's various projects; various EU or US based foundations, including private ones or the funding organizations of various governments (opened occasionally). Institutional development programme (ASTRA) funds have been used at the University of Tartu to hire academic staff with research interest in China.

All researchers from Asian countries can apply to Estonian Research Council mobility grants. Scholarships for international teaching staff and researchers:

<http://researchinestonia.eu/funding/>

Examples of successful collaborations with China

Successful research collaboration takes place in the fields of spatial mobilities, urban geography and segregation, and temporal and tourism geography between the University of Tartu's Department of Geography (Human Geography and Regional Planning) and Peking University, Tsinghua University (Department of Urban Planning), Shanghai University (Smart City Institute) and Hong Kong Baptist University. Jointly, doctoral students are supervised and research papers written. Methodology of analysis of large cities is developed. Student and staff exchange is being established.



Shuai Li

PhD student of Plant
Physiology

Estonian University of Life
Sciences



[Estonian University of Life
Sciences](http://www.emu.e)

Estonia EU presidency in 2017

Estonia will be holding the EU Council presidency in the second half of 2017. The focal themes for Estonia will be the single and digital markets, the energy union and closer integration of our Eastern partners into Europe. We also want to focus on the promotion of e-solutions and the information society in EU policy areas. See [Estonia EU presidency programme](http://ec.europa.eu/euraxess).

Interview with Chinese PhD student Shuai Li in Estonia

1. How did you hear about Estonia and why did you decide to work in Estonia?

In fact, I knew my PhD supervisor's, **Ülo Niinemets**, name when I started my masters in China in 2009. At that time I read his papers, which are highly related to my master thesis topic. After I finished my master's studies, I contacted Ülo to ask if the PhD position is available in his lab, and he replied and accepted my application. Before that I just knew Estonia but didn't know anything about her. The reason why I decided to study here is that Ülo is a famous and top scientist and I believe that I will receive very good training for my PhD study.

2. Name three characteristic things about research work in Estonia or about Estonia in general.

I think the first characteristic about the research work in Estonia is top quality. For example, we have excellent facilities and devices in our lab and very good ideas from supervisor. The second characteristic about the research work in Estonia is very good work environment. You know our University is not big, but very convenient for living and studying. The third characteristic about Estonia is excellent natural environment. Forests cover about 50% of the territory of Estonia. In addition, we also have the sea, bogs, rivers, lakes and, of course, a lot of wild animals. It is amazing!

3. A message to anyone who is considering research work with Estonian partners or moving to Estonia for work.

What I want to say for those Chinese who want to study or work in Estonia is: Estonia is a small country compared to China, but it has specially charming culture, top quality education, excellent nature and environment, and of course friendly people. It is a good place to study, work and live. I believe that once you are here, you are gonna love it!



European Research Council
Established by the European Commission

The ERC is led by an independent governing body, the **Scientific Council**, and, since January 2014, the ERC **President is Prof. Jean-Pierre Bourguignon**.

The ERC has a budget of over €13 billion and is part of the EU research and innovation programme, Horizon 2020.

ERC grantees have won prestigious prizes, including **6 Nobel Prizes, 4 Fields Medals, 5 Wolf Prize** and more.

2014-2020 budget: 13,1 billion euro.

European Research Council (ERC) grants support individual researchers of **any nationality and age** who wish to run five-year-projects in frontier research, in a public or private research organisation based in the countries of the European Research Area (ERA), that includes EU Member States and Associated Countries.

The ERC encourages in particular proposals that cross disciplinary boundaries, pioneering ideas that address new and emerging fields and applications that introduce unconventional, innovative approaches.



Watch the ERC video [here](#).

2 Hot topic: European Research Council 10th Anniversary

The European Research Council (ERC), is the first European funding organisation supporting cutting-edge 'blue sky' research in all fields, and helping Europe attract the best researchers of any nationality. It was setup 10 years ago, in 2007, by the European Union. At this occasion, we would like to turn our focus on some of the great achievements of the ERC.

10 years of the ERC: a European success story

The ERC, established by the EU to support excellent researchers in Europe, has backed scores of them, including six who later received Nobel Prizes. ERC grants also created career opportunities for some 50,000 research staff, resulting in numerous scientific breakthroughs and leading to over 800 patent applications that lay the foundations for growth and jobs, and the improvement of people's daily lives.

For example, Deniz Kirik at Lund University in Sweden developed a promising gene therapy for Parkinson's disease. Valeria Nicolosi at Trinity College Dublin in Ireland created batteries that last even 5,000 times longer, using two-dimensional materials. And astronomer Michaël Gillon at the University of Liège, Belgium, discovered potentially inhabitable planets orbiting another star that recently made news worldwide. The ERC believed in their ideas and encouraged them to follow their scientific curiosity; there are countless other examples that help putting Europe on the map.

The President of the ERC, Professor Jean-Pierre Bourguignon, said:

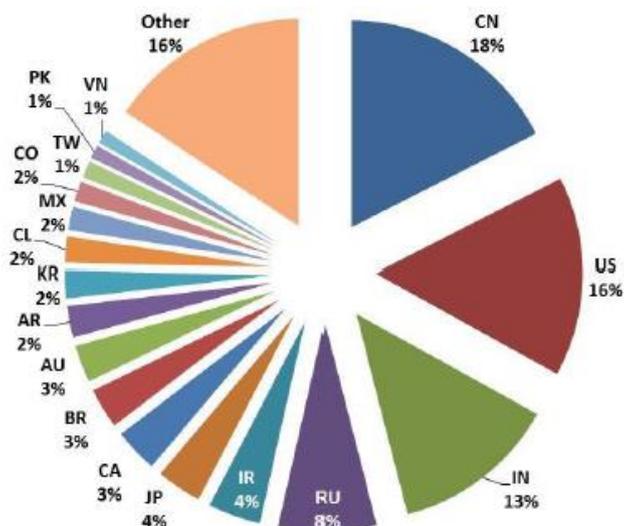
"For the past ten years the European Research Council has supported high-quality research projects proposed by ambitious scientists. ERC grants led to many scientific breakthroughs. [...] The ERC is fulfilling the mission it was given to make Europe the place to be for the world's best brains."

ERC open to the world

The ERC strives to attract top researchers from anywhere in the world. To date, it has funded some 6 900 top researchers at various stages of their careers.

ERC grants are **open to researchers of any nationality** who may reside in any country in the world at the time of application. Currently, there are **537 (8%) principal investigators of non-ERA nationality**, for a total grant value of EUR 900 million. These grant holders are mainly nationals of the US (218), Canada (63), Russia (44), India (38), Australia (37), Japan (25), and China (23).

On average, ERC grantees employ around six team members during their ERC project. An estimate shows that some **17% (about 7,000) of these team members are nationals from countries outside Europe**.



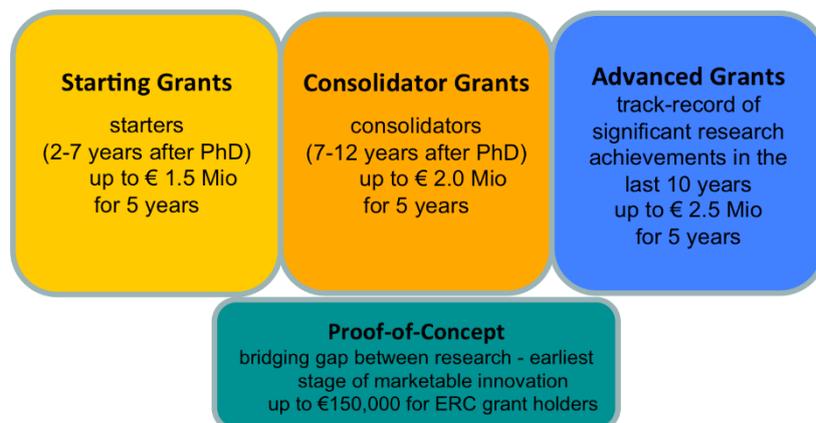
This graph shows an estimated breakdown of nationalities of ERC project staff members from non-ERA countries, based on an analysis of 1900 grants. The major part (almost half) of the non-ERA staff members come from three countries covered by EURAXESS Worldwide: China (18%), the US (16%), and India (13%). Japan (4%), Canada (3%), and Vietnam (1%), also bring a noticeable contribution. The ERC wishes to further pursue internationalisation and warmly encourages researchers from all countries to apply for funding and to search for jobs within ERC teams.

About the ERC funding schemes

Researchers, independently of their nationality and current place of work, can apply for 3 types of ERC grants:

- [ERC Starting Grants \(StG\)](#) for young, early-career top researchers, 2-7 years after award of PhD.
- [ERC Consolidator Grants \(CoG\)](#) for already independent excellent scientists, 7-12 years after award of PhD.
- [ERC Advanced Grants \(AdG\)](#) for senior research leaders.

Additionally, ERC grant holders can apply for top-up funding (Proof of Concept Grant (PoC) to explore the innovation potential of their research results.



ERC calls are annual. Find the calendar of upcoming calls [here](#).

=> **How to find a job in ERC teams?** ERC grantees are encouraged to publish vacancies in their teams on the [EURAXESS Jobs portal](http://euraxess.eu). A quick search with the “European Research Council (ERC)” additional filter will list all vacancies available in ERC teams in Europe.

How to find a job within ERC teams

ERC projects are carried out by an individual researcher ('Principal Investigator') who can **employ researchers of any nationality as team members**. One or more team members can even be located in a non-European country.

How to perform research visits with ERC teams (NSFC-ERC Implementation Agreement)

The scheme supports Chinese researchers in joining ERC-funded teams to conduct research visits of six to twelve months (Chinese applicants who wish to apply for this NSFC scheme can contact NSFC for contact details of European side).

Applicant should have a PhD degree, and should be project leader or main participant in ongoing NSFC projects of a duration of >3 years with a completion date after 31 December 2017.

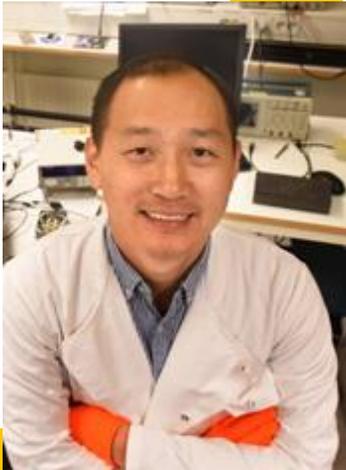
Applicants should contact the EU project teams with the intention to accept Chinese researchers to reach agreement on issues such as visit duration, research content, daily allowance and research costs during stay in Europe, etc., and receive the Letter of Intent for Hosting early-career Chinese scientists to join ERC-funded teams (model attached in the call) signed by the European project leader

Any additional requirement on eligibility of NSFC provided in the 2017 NSFC Guidelines for Applications.

Submission online at <http://isisn.nsf.gov.cn/egrantweb/> by **27 April 2017**

NSFC Europe Division: email: xoc@nsfc.gov.cn

For technical questions related online submissions: tel: 6231 7474.



3 Meet the researcher: Prof Feng Gao

Assist. Prof. Feng Gao is a group leader in the Division of Biomolecular and Organic Electronics at Linköping University in Sweden. In 2016 he received a €1.5 Million Starting Grant from the European Research Council. He works at the interfaces between physics, chemistry, and materials science, focusing on the development of novel optoelectronic devices for energy technologies.

ERC Starting Grants

European Research Council (ERC) Starting Grants are designed to support excellent researchers at the stage at which they are starting their own independent research team and an idea for a groundbreaking high risk/high gain research project.

From 2-7 years after PhD, grant up to € 2.0 Mio for 5 years.

See more information about the starting grants [here](#).

So how did it come to be that you decided to do your work in Sweden?

I started out by going to the UK, doing my PhD at Cambridge. After graduating I took part in the Marie Curie Intra-European fellowship, for which where I had to move to another European country. I sent an email to a professor in Sweden who is very famous in our field, asking him whether it would be possible to host me. He answered positively so that was the reason I ended up in Sweden. Now I've stayed there for almost 5 years.

I like the Marie Curie scheme quite a lot. When I was studying in the UK I was very interested in other European countries; I wanted to find out if they were all quite similar, in the same way as different provinces of China. That didn't turn out to be the case. After moving to Sweden and doing research there for several years I've come to understand that Sweden and the UK are totally different countries. Culture and everything differs quite a lot...

What made you decide to apply for the ERC starting grant?

I always kept my eye on the ERC starting grant as I was about to enter the frame of eligibility, as this might be the best grant I could get as a young researcher in Europe I develop an idea in 2014, but I waited for a year, continuously developing my idea, until I felt like I was ready and applied. I was lucky enough to get it on my first try.

My project is about a new generation of Light Emitting Diodes (LEDs). In recent years; LEDs have become common in our daily life, in our offices and in our homes. The problem with the current generation of LEDs is that they require quite a costly fabrication process. Although the price has been going down in the past several years it is still relatively high. The reason is that with the current materials we need to use high vacuum process, which is a very expensive process. Now we are trying to develop new techniques that will reduce the price significantly. We are using a new kind of material that has gained great success in the development of solar cells. I want to use these same materials for LED applications.

I've always been interested in those areas that have to do with energy. Currently, my research group is involved in two things; one is solar cells and the other is the

LEDs. Both are related to energy applications. Solar cell convert solar energy into electricity and LEDs can make the use of energy more efficiently.

Do you have any recommendations for Chinese nationals that want to apply for an ERC grant?

I think it depends on where you are now. I'm a Chinese working in a European Country, which makes it easier for me, because I have easy access to information about the ERC. Through my work in Europe I'm also aware that this grant is very prestigious and good for my career.

For Chinese researchers in China they are in a bit of a different situation. It depends on whether they want to stay in China or if they are willing to move to a European country for their career. If they want to try and are willing to make changes they definitely have a chance.

The ERC grants are very open internationally and if there is a Chinese researcher that is working from China right now wants to apply for it, they certainly have a chance, if they find a European university to work with.

Do you have any practical tips for those that want to apply?

First of all, you need to talk with the people who already have an ERC grant so they can share with you some personal opinions and ideas about how to prepare for it. There are different steps you have to go through when applying and the selection process in each step is different and requires different preparation. You need to first explain your concept in a written way and then you need to go to an interview, so certainly the most helpful tip is to talk to people that already have an ERC grant as they know how it works and what it takes. When I applied I tried my best bothering all the people I knew that got an ERC grant!

Secondly, you need to prepare yourself. You need to have a breakthrough idea that you are willing to devote at least 5 years to work on. If you aren't enthusiastic about the idea yourself, it's not going to be possible for you write a convincing proposal. You also need time to prepare. In my case I spent about one and half months solely on writing the proposal and before the interview phase I spend another half a month just preparing the slides and practice and doing mock interviews with colleagues.

It's important to be well prepared as there is a lot of competition. When applying for an ERC grant you are competing with the best researchers in Europe and all over the world. You must prepare, otherwise you will lose your chance.

Do you have any ongoing collaborations with Chinese researchers?

I have a very close collaboration with several universities in China. When I was doing my PhD in Cambridge I belonged to a very big research group, 80 people. Some of my Chinese colleagues there returned to China after getting their doctorate. They have now established their own research groups and we keep

very good relationships. We are doing similar things and it's very natural for us to collaborate.

For example, I'm coordinating Marie Curie RISE funded staff exchange programme, with two other universities in Europe and two universities in China. When writing the proposal for the RISE you have the freedom to choose how it works. In our case, we can send junior or senior researchers to China if there is something we want to learn or participate in. We sign an agreement beforehand about what happens to the results of the research, if an outside researcher is part of a discovery then the outside university becomes a co-owner of that result. Maybe some other institutes do it differently, but we prefer to keep it simple.

What are your plans for the future?

I like living in Sweden for now. The culture is really interesting; I like how Swedish people try to keep life simple and focus their energy on things that are necessary for life. I will continue to develop more and more ideas for the years to come, and I believe that we can have many interesting results during and after the ERC grant. When I was young, mobility was very helpful to me but now that I have a family, I hope to achieve some stability and put down roots.

Professor Feng Gao, thank you for your time!

Prof Gao was nice enough to speak about his experience during the EURAXESS China event celebrating the ERC 10 years anniversary on 13 March. Go to the [event page](#) to see a video that includes an exclusive interview with Feng Gao.

About us

EURAXESS China is a networking tool for European researchers active in China and for Chinese researchers wishing to collaborate and/or pursue a career in Europe. EURAXESS China provides information about research in Europe, European research policy, opportunities for research funding, for EU-China and international collaboration and for trans-national mobility. **Membership is free.**

Visit us at china.euraxess.org and [Join](#) the EURAXESS China community.

EURAXESS Worldwide networks have thus far been launched in North America (USA & Canada) Japan, China, India, in ASEAN (currently focusing on Singapore, Thailand, Malaysia, Vietnam and Indonesia) and as of March 2017, the EURAXESS Brazil network has been expanded to cover Latin America and the Caribbean States as well.

