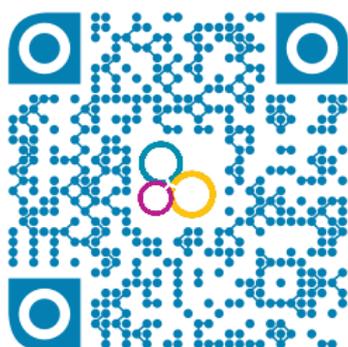


# EURAXESS Japan Quarterly Newsletter Issue 5 Q1 2017



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Web: [japan.euraxess.org](http://japan.euraxess.org)

Mail: [japan@euraxess.net](mailto:japan@euraxess.net)

Twitter: [@euraxess\\_japan](https://twitter.com/euraxess_japan)

YouTube: [EURAXESS Japan](https://www.youtube.com/EURAXESSJapan)

*Editor: Matthieu Py, EURAXESS Japan, Country Representative*

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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 over 40  
countries, of which we will  
profile one in each of our  
quarterly EURAXESS Japan  
newsletters. In this edition, we  
will zoom in on Estonia.

# EURAXESS Members in Focus: Estonia

**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>



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



Promotional page about Estonia: [www.estonia.ee](http://www.estonia.ee).



[University of Tartu](#)

Promotional page about [Research in Estonia](#)

Umbrella organisation uniting researchers, scholars and intellectuals: [Estonian Academy of Sciences](#)



Estonia will be holding the EU Council presidency in the second half of 2017. In the STI field, Estonia will advocate for an improved Digital Europe and for the concept of free flow of data (in addition to 4 classical EU freedoms), in order to create a favourable environment for new innovative services.

Estonia EU presidency calendar:

<https://www.eesistumine.ee/en/presidency/presidency->



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

[e-Estonia – The Digital Society](#)

[Enterprise Estonia](#) supporting and advising businesses



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



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

Authors:

+ Hanna Raig, EURAXESS Estonia

+ Centre for Asian Research in Estonia

+ Argo Kangro, Counsellor, Embassy of Estonia (Tokyo)

<http://ec.europa.eu/euraxess>

## 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**.

## 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, digital signatures, online voting, and most recently the e-residency for anyone in the world (you can become an [e-resident](#) of Estonia in order to register your business in Estonia). This digital ID grants individuals with full rights to do business in Estonia and in most European Union countries. More than 17,000 individuals from 130 countries registered for e-residency, and the number keeps growing fast. This enables Estonia to foster entrepreneurship and innovation.

[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!



## Research collaboration with Japan

Japanese citizens can stay in Estonia visa free for 90 days but for working and long-term stays they require a hosting agreement and a residence permit. See all [Estonian embassies and representations](#) around the world.

Although there is no bilateral Agreement on Cooperation in Science and Technology on governmental level, there are many existing agreements (MoUs) between Estonian research agencies and universities. All of the major Estonian universities also have ongoing projects with Japanese partner universities. According to MEXT there were 137 researchers exchanges taking place from Japan to Estonia in FY 2014; however only 15 from Estonia to Japan. The Estonian Research Council (<http://www.etag.ee/>) has a MoU with Japan Society for the Promotion of Science (JSPS) for postdoctoral fellowships since 2002.

Natural sciences based cooperation between **Tallinn University** and several Japanese universities (Kyoto University, Forestry and Forest Products Research Institute; National Institute of Advanced Industrial Science and Technology; Chiba University etc) has increased during the last 5 years. Most of these studies are connected with research on **forest carbon dynamics** and **forest stand development**. In addition, studies about **wetland dynamics** and **vegetation modelling** are ongoing. Many joint seminars have been held and several papers have been published together with the Japanese colleagues. Collaboration is also going on with Tokyo University of Marine Science and Technology and Sophia University. Topics are bioanalytical chemistry, structure and technology of gelling galactans.

Some examples of S&T cooperation projects:

- *Scrub Nurse Robot for endoscopic and laparoscopic surgery was developed in cooperation between Tallinn University of Technology (TUT), Estonia and Tokyo Denki University, Japan. Adaptive control and planning of the robot is developed by the group of Prof. J. Vain at TUT. The robot is unique in its capabilities to adapt to the behaviour of a human surgeon. TUT participates also in other research projects on oil shale, biomedicine, material sciences and information technology.*
- *Tallinn University conducts research in cooperation with the Asian institutions on the topics of Asian Modernity and Geopolitics.*
- *The University of Tartu has a long-term cooperation with Japanese corporations. An agreement has recently been signed with the Institute of Physical and Chemical Research of Japan for the project on relationship between curvature and electronic surface resistance of ionic polymer metal composites with anisotropic surface.*

The Estonian government hopes to finalise the negotiations on an S&T Agreement in the near future and hence lay more solid bases for cooperation with Japan.



**Shinya Sugita**

Senior research fellow,  
Tallinn University Institute for  
Ecology

## Interview with Japanese senior researcher Shinya Sugita in Estonia

*- How did you hear about Estonia and why did you decide to work in Estonia?*

I've had active collaborations with scientists in the Nordic countries since the mid 1990-s. In 2001-2006 my colleagues there and I organised a research network sponsored by NORFA, and I gave lectures and training courses in the network-related workshops in various European countries, including Estonia in 2003. The network members included a couple of participants from Estonia, and I got to know them and their work in palaeoecology. I decided to come to Estonia for work in 2008 because of its proximity to the Nordic countries, where I've still had many collaborations, and good research potential and high-quality work in palaeoecology and palynology in Estonia.

*- Please name three characteristics about research work in Estonia*

(1) Solid and well-structured work in basic research, (2) patience in long-term monitoring and (3) gracious to others.

*- Would you have a message to researchers from any country considering collaborative projects with Estonian partners or moving to Estonia for work?*

Researchers in Estonia, early-career scientists in particular, are well trained and informed with up-to-date knowledge and good IT skills. Good command in English is also a norm among scientists; thus, communication won't be a big issue for foreign workers. It would be good to enjoy a sense of dry humour among Estonians in daily life.



# Hot topic: European Research Council 10<sup>th</sup> 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 back on some of the great achievements of the ERC.

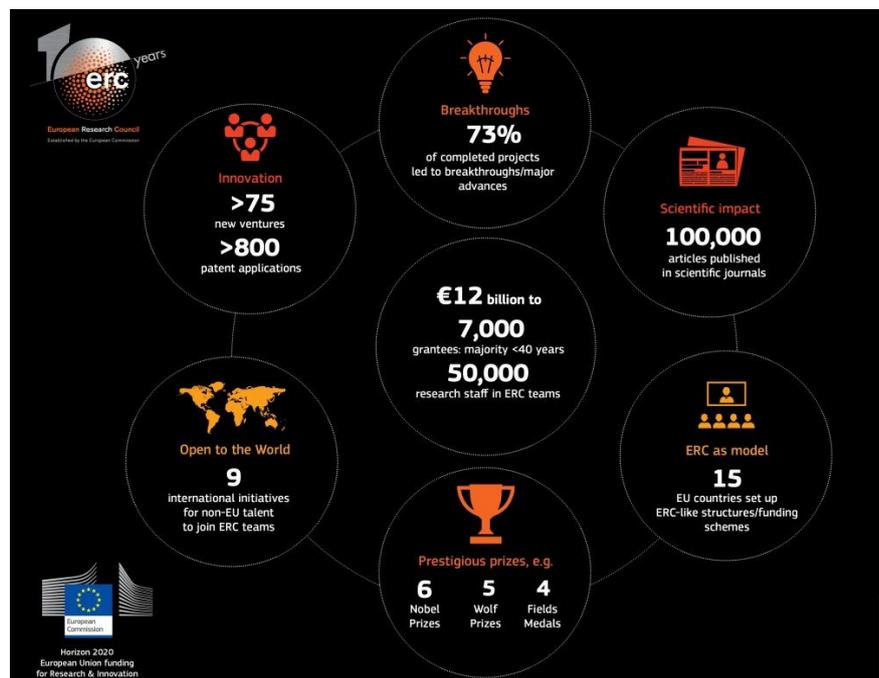
## 10 years of the ERC: a European success story

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, resulted in numerous scientific breakthroughs and led 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.

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."



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**, **3 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](#).

## ERC open to the world

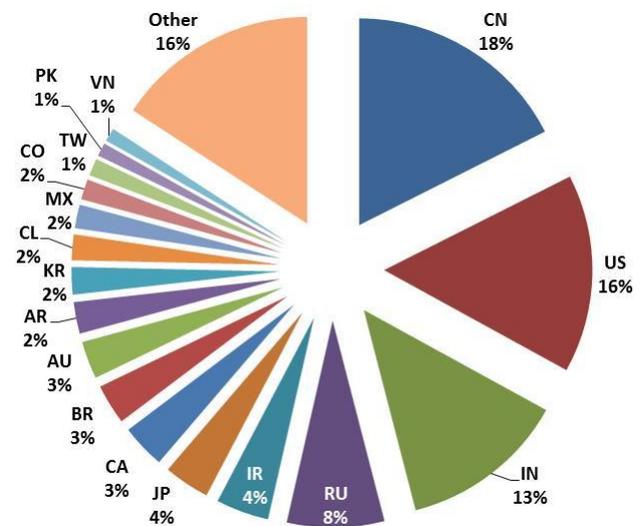
The ERC strives to attract top researchers from anywhere in the world. To date, it has funded some 6 900 top researchers at various stages of their careers.

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**.

Nationality of ERC project teams (PIs not included), from an analysis of 1,901 Starting and Advanced Grants. Non-ERA nationalities breakdown represented here account for 17% of the staff members (EU and Associated Countries: 81%, unknown nationality 2%)

Source: ERC



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.

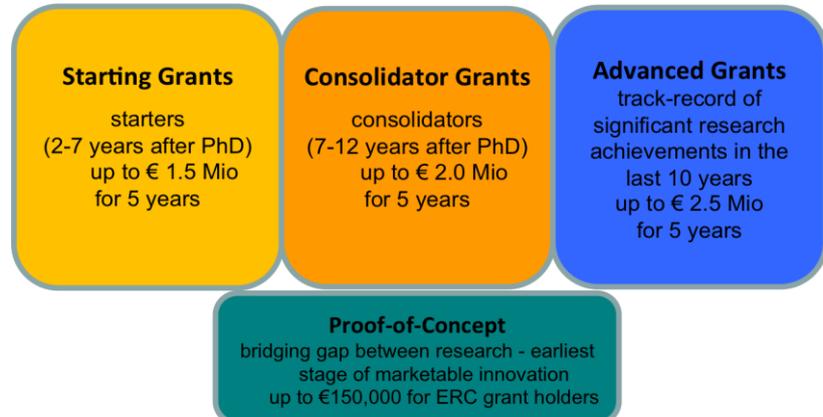
## About the ERC funding schemes

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](#). 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 visits?**

If you are eligible (JSPS research fellows under the DC, PD, SPD, RPD categories), the JSPS will provide you with all the necessary information, and a list of the ERC PIs calling or Japan-based researchers. You have to contact them on your own and fix the terms of your visit. The administrative procedures relevant to your visit abroad must be completed at least one month prior to the start of your research stay.

**Deadline: 19 May 2017**

Read the details of the application procedure for JSPS researchers [here](#) (English) and [here](#) (Japanese).

### How to perform research visits to ERC teams (JSPS-ERC exchange scheme)

Since 2015, the **Implementing arrangement (IA)** between JSPS and the European Commission enables **young JSPS research fellows** (PhD candidates and post-doctoral researchers) to **carry out research visits and temporarily join ERC teams in Europe**. Research visits can be of any duration up to the limit set by each researcher’s contract for days spent abroad while receiving JSPS support; and must start during the Japanese fiscal year 2017 (April 2017 - March 2018).

In practice, ERC launches an annual Call for expression of interest amongst ERC grantees to inquire about their interest to host Japanese scientists in their research teams. **From the last call (October 2016), 345 PIs expressed interest in hosting Japan-based scientists**. The list is then sent to JSPS which informs eligible researchers of the opportunity. There is no pre-selection by JSPS. Individual researchers must reach an agreement with their future host by themselves. **Selected researchers will continue to receive their funding and salary from JSPS during the length of their visit**. JSPS does not support travel costs. However, researchers can also through an agreement with their host, receive financial support from the PIs grant money.

[Read interviews of Japanese researchers who benefited from this research stay scheme in 2016 here.](#)

# Meet Dai Aoki, former ERC Grantee, Professor at Tohoku University

**- Dai, can you introduce your research interests to our readers?**

My subject is condensed matter physics; in particular magnetism and superconductivity on rare earth and actinide compounds under extreme conditions. Unconventional superconductivity and its mechanisms are my interests.

**- You were previously under an ERC grant in Europe. Can you tell us a bit about your professional choices, and what particular circumstances lead you to work in Europe under this grant?**

I was a postdoc in CEA-Grenoble (France) for two years from 2000, and then went back to Japan to get an academic position. Since I enjoyed my research and the life in Grenoble, I decided to return there in 2007, as a researcher. I first tried to obtain an ERC grant but failed. 2007 was the very first call for ERC grants and it was too competitive for me. But I tried again two years later, and succeeded. My ERC project started in 2010.

**- How did you obtain the grant? Were there specific hurdles that you managed to overcome in order to secure the funding?**

When I applied to the ERC Starting grant in 2009, the proposal was followed by two-step peer review evaluation. I submitted two proposals, part B1 (12 pages for 1st step) and part B2 (19 pages for 2nd step). The proposal was evaluated in terms of “research output and track record of PI” and “research project”. I spent a lot of time to write how important the proposal is in the part of objective. The proposal should be ambitious and high gain, but also should be show promising output. It was very hard for me to write a grant proposal with that many pages. I spent almost one month to complete the proposal.

At the 2nd step, I was invited for interview. I repeated rehearsals and asked comments from non-specialists as well. At the interview, I talked about my project with some jokes. I am proud that I succeeded to make interviewers laugh during the interview!

In the end, I think the strong motivation I had to perform my research was what allowed me to obtain the grant.

**- During your time in France with your ERC grant, you used the very unique possibility given by ERC to spend time in a third country for research, by keeping your position in Japan. Can you tell us more about that: how did you manage to do it and what output was there to it?**

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Biography Prof. Dai Aoki:

2000            PhD degree at Osaka Univ.

2000-2002    Postdoc at CEA-Grenoble

2002-2007   Assistant Prof. at IMR, Tohoku Univ.

2007-            Researcher at CEA-Grenoble

2010-2015    ERC project (ERC starting grant 2009, NewHeavyFermion)

2012-            Professor at IMR, Tohoku Univ.

Read further expert advice from Prof. Andreas Zeller on how to write ERC grant proposals on the [EURAXESS Japan website](#)



European Research Council (ERC) grants (5/5): tips & experience feedback by grantee Prof. Aoki

Watch Prof. Dai Aoki's video: insights & tips for ERC grant writing on the [EURAXESS Japan YouTube channel](#)

After obtaining the ERC grant, I was offered a professor position in Tohoku University. It was a good opportunity for me, because I was thinking that I should contribute to academic community and play some roles in Japan. In order to continue my ERC project, I decided to perform my project 50% in France and 50% in Japan. I wrote a letter to ERC president to request the change of my plan, and it was authorized.

Fortunately, all equipment which I needed was already installed, because I had been there previously, doing research on actinide compounds. The cost for consumables was supported by Tohoku University under a research collaboration scheme between Tohoku University and CEA-Grenoble.

**- Your grant finished in 2015. What impact did it have on your career? Also, what did this mobility experience to Europe bring to you, in terms of skill or career development?**

I believe it had a great impact on my career. To get an academic position in Japan, you have to show your ability to be an independent researcher. Thanks to the ERC grant, I could demonstrate it and obtain a professor position. Because I already had my own team in France within the ERC project, it was quite easy to establish my group in Japan as a PI, too. During my ERC project, I learned how important research collaboration is for a project to succeed. Bonds that were formed then produced collaboration topics, which are still ongoing.

**- From your perspective, how can/should researchers' mobility flows between Europe and Japan (both ways) be improved?**

I think young researchers should be more ambitious, and not be afraid of trying. Fortunately there are many grants and exchange programmes for young researchers.

**- Do you have a short message of encouragement to other Japanese researchers potentially interested in applying to ERC?**

Don't give up applying the ERC even if you fail. Not only your project but also your research track record is important. Please enjoy your research and don't forget to write papers as outputs.

***Thank you for your time Professor Aoki!***



# EURAXESS Japan activities

## Falling Walls Lab Tokyo 2017

**GREAT MINDS  
3 MINUTES  
1 DAY**

**Learn, share and communicate about research!**

Based on the idea of "breaking down various walls" around the world, this event provides students, young researchers and professionals of all disciplines and nationalities an opportunity to present their research projects or ideas in 3 minutes and in English, in front of a non-specialised audience.

The winners from the Falling Walls Labs from around the world - including the Falling Walls Lab Tokyo - will gather for the Falling Walls Lab Finale in Berlin in November.



**Application deadline: 27 April 2017**

Event date and time: Saturday 27 May, 15:00 - 17:30

Venue: Miraikan, Tokyo

Language: English

Application & further information: [bit.do/FWLT2017-euraxess](http://bit.do/FWLT2017-euraxess)

## Grants In Practice 2017: MSCA and ERC training

This event brings you all you need to know on MSCA and ERC grants:

- **What & When:** Grants specifications, evaluation processes, deadlines;
- **Who:** Eligibility conditions, host researcher/institution selection;
- **How:** Proposal writing workshop/training, tips & tricks for success.

With a focus on ERC grants, MSCA IF grants (for postdoctoral - mid-career research stays in Europe), and MSCA RISE (for personnel exchange within collaborative research projects).

**Expert advisors (specialised Horizon 2020 National Contact Points) from Europe will come especially to Tokyo for this event to give the lectures and trainings.** Grantees and alumni will share their experiences.

**Date: 14 July 2017** (full day)

**Venue, Delegation of the EU to Japan, Tokyo**

Language: English

Information: [euraxess.ec.europa.eu/worldwide/japan/grants-practice-2017](http://euraxess.ec.europa.eu/worldwide/japan/grants-practice-2017)

