Contents

EURAXESS Members in Focus: Luxembourg..........................2

Meet LUXEMBOURG – an Inspiring Place!........................................2
LUXEMBOURG Policy and Strategy ......................................................2
Innovation..........................................................................................3
Recruitment Opportunities ..................................................................3
Funding Opportunities..........................................................................4
Important Information for Incoming Researchers.............................4

Hot topic: With Science Communication, Improve Your Research & Career ..................................................5

Five ideas for better communicating your science..............................5
Science Communication Interview with Dr Fowler, Deputy Director of Development, EPFL, Switzerland.........................................................7
Science communication as a career path: Dr. Escobar, from researcher to professional science communicator in Japan........................................9
Science communication and outreach plans are a must-have for EU-funded projects ..........................................................10

Meet Albert Mufundirwa, 2nd Place Winner at Falling Walls Lab Tokyo 2017.................................................................12

EURAXESS Japan Activities Update .................................................15

Deadline soon! Call for abstracts: European Research Day 2017 ........15
Grant Proposal Peer-Review Service launched! ..................................16
Meet LUXEMBOURG – an Inspiring Place!

Strategically located in the heart of Europe, the Grand Duchy of Luxembourg is a strategic smart business, research and innovation location with a national character of openness, dynamism, reliability. For centuries, the country has been at the heart of a multitude of cultural influences, partly because of its geography but also because of trade, industrialisation, and immigration. It has protected its woodlands, shaped its landscapes with winegrowing, farming, and architecture. It has cultivated linguistic diversity, cultural originality, and economic freedom. It was also considered for a long time that the prosperity of Luxembourg was due to the richness of its soil. Once one of the main steel plant sites of Europe, the country became a financial place over the years due to the steel crisis in the seventies, before morphing recently into a research and innovation hub. Today, Luxembourg is one of the most attractive countries in the world for working and living, and a genuine societal laboratory.


LUXEMBOURG Policy and Strategy

LUXEMBOURG IS A DYNAMIC COUNTRY, WHERE RESEARCH HAS BECOME A CENTRAL ISSUE

Public research in Luxembourg is young and dynamic with research policy contributing to the transition of the country towards a knowledge-based society. The overarching rationale behind research policy is to strengthen innovation as a driver of sustainable socioeconomic development and to contribute to a further diversification of the economy by developing new and strengthening existing high added-value economic activities. In this sense, research and innovation policy has been one of the major priorities of the Government since 1999 with Government budget outlays rising from 28 million euros in 2000 to approximately 400 million euros in 2016. This proactive and committed policy approach puts Luxembourg firmly on the map of European research. This is illustrated among others with the position of the University of Luxembourg, while only created in 2003, ranging 11th in the latest “Times Higher Education” ranking of the 200 universities under 50 years.
Public research is mostly performed at:
the University of Luxembourg;
one of the 3 public research centres;
- Luxembourg Institute of Technology (LIST)
- Luxembourg Institute of Health (LIH)
- Luxembourg Institute of Socio-Economic Research (LISER)
the Max-Planck Institute Luxembourg for International, European and Regulatory Procedural Law

Innovation

Luxinnovation is a key partner for companies looking to engage in innovative activities in Luxembourg or aiming to expand their business at the international level.

Recruitment Opportunities

Public Sector Recruitment Opportunities
Most researchers in Luxembourg are employed in public sector institutions, with University of Luxembourg being one of the most important employers of research staff. All positions open at the public sector institutions and the University of Luxembourg are published on the EURAXESS webpage.

Private Sector Recruitment Opportunities
The financial sector is the main driving force behind the Grand Duchy's economy. The Grand Duchy's authorities have adopted a policy of diversification of the country's economic fabric by providing support for information and communication technologies (ICTs), logistics, bio- and eco-technologies, research, etc. as well as actively promoting the diversification of the financial marketplace.

Several instruments for investment aid to stimulate R&D activities within companies: grants, loans, venture capital, export credit lowest VAT rate in Europe.

Source: http://www.luxembourg.public.lu
Find innovative partners in the private and public sector.
The Luxembourg National Research Fund (FNR) is the main funder of research activities in Luxembourg. The FNR invests public funds and private donations into research projects in various branches of science and the humanities, with an emphasis on selected core strategic areas. Furthermore, it supports and coordinates activities to strengthen the link between science and society and to raise awareness for research. The FNR also advises the Luxembourg government on research policy and strategy. The FNR has a broad range of international funding opportunities, among which bilateral collaborations with RIKEN in Japan or the NRF in Singapore. Further details are available under the “International Cooperation” section of the Luxembourg National Research Fund website.

Important Information for Incoming Researchers

The EURAXESS Luxembourg team is at your full disposal.

EURAXESS Luxembourg provides information and support to international researchers, all services are free of charge. We provide information about entry conditions, visas and residence permits, Luxembourg in general, the Luxembourgian research landscape, job & funding offers, partnering, events for researchers and much more!

Please read our Foreign Researchers’ guide to Luxembourg, a practical guide on living & working in Luxembourg.

**ENTRY CONDITIONS:**

Please check if you need a visa.

For working and long-term stays, they require a hosting agreement and a residence permit. See all Luxembourgian embassies and representations around the world.

Fees are waived for researchers from third countries travelling within the EU for the purpose of carrying out scientific research. For additional information on visa issues please visit the Euraxess Luxembourg website.
As researchers, most of us still report our science in the same old way we’ve done it since school: title, authors, materials and methods, results, conclusions etc….you know the deal. This works for publications and peer-to-peer but are you increasingly being asked to explain what you do to ‘non-experts’? Maybe you love this aspect of your work, maybe you find it challenging – in any case it requires a very different approach. Here are a few ideas that might help.

**Ask yourself who is your ‘end user’?**

Everyone will tell you that one of the first rules of communication is “tailor your message to your audience… blah, blah blah…”

I think we can safely assume that you would never consider going into the depths of String Theory with a class of school kids, opting instead to explain things in a way that they’ll understand. A different way of looking at it is to try and set up a chain reaction, allowing the person you communicate with to then use the information for something. This could be passing it on to someone else, or rethinking their opinion or behaviour for example. Your audience should never be the end user, try giving them the tools to be able to pass the message along.

**Don’t just educate…engage!**

One of the biggest mistakes we make as scientists is feeling that our audience needs to understand how things work before we can begin to explain our research. This works fine with an intellectually curious audience but can actually be negative with non-experts – when people don’t understand, they feel stupid and just switch off. There’s a great article over at Slate that goes into more details on this with references to some nice studies if you want to know more, but essentially, ask yourself how much your audience really needs to know to be interested in what you say. Ok, so no schoolroom lectures - how do you really engage your audience?

**Get personal and make your audience look good**

The great American writer John Steinbeck noted rather sceptically “If a story is not about the hearer he/she will not listen.” It’s obviously much easier to talk to an audience on a subject that affects them directly, like a possible cure for Alzheimer’s or how much their water costs them, for example. But Steinbeck was only half right, probably because he lived in an age before social media.
We naturally pick up on things that are new/crazy/funny/odd/frightening (delete as appropriate). So, if you can’t make your research personal, ask yourself if you have something that will surprise or impress people.

**CERN** is a great example of this – not many of us can see the direct application of the Higgs Boson in our daily lives, but the idea of a 27km underground accelerator filled with superconducting magnets and cooling systems that use as much electricity as a small town is fascinating!

Can you give your audience something that will make them look good at a dinner party or get plenty of likes on social media when they relate what they’ve heard?

The last option is scandal, but unless you’re willing to falsify a few results, get a couple of papers retracted, and ruin your career, this isn’t the recommended option!

**Pitch your science**

If you’ve ever been to a start-up seed night, you’ll have noticed that there is a pretty standard formula for pitching:

1. There’s a problem,
2. I can fix it,
3. This is how much money I need and it can make you rich.

Ok, so you’re not a start-up but you still have to ‘sell’ your idea. So set the stage, make sure people know what the problem or the question is (and if it affects them directly – see 3 above) and don’t start with your science. Once they’re tuned into the issue, then tell them about how you’re trying to fix/answer it. Leave the money part for later.

**Use your platforms & take yourself out of your comfort zone**

Nobody gets good at anything by chance - sure genetics help, but you got your brain didn’t you? Even if you think you’re never going to be the Usain Bolt of the academic world, the old adage about practice goes for science communication too. This means you can’t wait to be asked – get out of your comfort zone and sign up for **Falling Walls Lab Tokyo, Pint of Science Japan, Nerd Nite Tokyo**, your own institution’s outreach programmes, or any of the events available around you!

Offer articles for your department’s or university’s websites/blogs/social media and if you’re working for an institution with some kind of central communication unit, make sure they know who you are and when you publish. At first it might be the most frightening thing you’ve ever done but jump out of a plane (with a parachute!) enough times and that stomach-churning fear starts to come with a buzz.

What if none of these platforms exist where you are? Well, maybe you’re just the right person to start one!
Science Communication Interview with Dr Fowler, Deputy Director of Development, EPFL, Switzerland

Please tell us how your interest in science communication developed.
I have always enjoyed the reporting side of science (presentations, reviews, posters etc.) but the big ‘revelation’ for me was during my PhD in Mucosal Immunology at Oxford. My funding body was part of an initiative called ‘Researchers in Residence’ that encouraged scientists to go into primary schools and teach three lessons on their subject. We got some basic coaching and then I was left on my own with 30 eight-year olds! I worked harder on those three lessons than anything else, and it was a real baptism of fire, but those kids had so much enthusiasm, it was infectious.

Why do you think science communication is important?
Research no longer happens in Ivory Towers – funding is increasingly competitive and from a wider range of sources. It could be described as a ‘buyer’s’ market, and if you’re trying to sell your science in this environment, you need a great pitch. I think it’s no coincidence that countries where a higher proportion of funding for universities comes from non-governmental sources, like the US and the UK, have a more developed science communication scene.

Upheavals like the 1998 autism-MMR vaccine falsehood have thankfully made scientists a lot more proactive about communicating and creating links with the public. But the continuous drip feed of pseudoscience on social media needs scientists to be constantly vigilant and counter with arguments that are relevant to people.

Lastly, improving science communication to non-experts can only be a good thing for communication between peers. After all, how many of us have sat through terrible scientific presentations given by colleagues or even world-leaders in our field?

What is the difference between science communication and journalism?
Science communication is extremely broad and encompasses anything from school’s outreach to diplomacy. In my opinion, good journalism is an essential tool for science communication as it focuses on the relevance of science rather than just the research itself. It also tends to have a more ‘birds-eye’ view of research which is important for joining the dots across disciplines and seeing how things fit together – for example the social and economic changes we can expect with increasing numbers of robots in the workforce.
“Fake news” is very much in the headlines these days. What impact is this having on science communication?

I think fake news is actually a huge opportunity for science communication on two fronts: Firstly, there is now a lot of research going into detecting, tracking and heading off fake news, so hopefully science will help us sift out the real information from the fake. Secondly, amid all the noise, reputable scientists are seen as trusted sources for information, for the media and public alike. But they need to step up and assume this responsibility.

In your opinion, what are some of the biggest challenges facing researchers in terms of science communication?

Finding the time! As science communication is not seen as an essential part of a researcher's role, it gets pushed to the back after research, teaching, admin, conferences and all the masses of other things that scientists have to fit into a day. I also think it’s the responsibility of universities/research institutions to make resources for science communication available for their scientists. Both have a vested interest in promoting their science and having professional communicators working with experts is the most productive way of doing things.

How can young researchers to strengthen their science communication skills?

Read, watch or listen to good science communication! There are some great popular science podcasts and blogs, and you could spend a lifetime surfing through talks on TED for example. Not only will this give you examples of how to communicate better, it will also widen your general scientific knowledge. Many scientists’ general knowledge can be pretty limited since they’re so focused on their particular research area.

What career opportunities are there in field science communication?

I’m not sure I’m the best person to give advice here; I haven’t followed the ‘typical’ path, which would probably be to get a science communication qualification after your PhD. I took any opportunity I could get to widen my experience as much as possible, either through teaching, writing or public outreach, for example. I also left science for a few years to work in sports marketing. Ultimately, I think you have to just put yourself out there as much as possible, gain visibility and widen your experience.

Could you share some advice for researchers trying to communicate their research to the non-academic community?
Ask yourself why people should listen to you (and being a well-published/well-funded scientist is not an answer here!). Your audience needs to gain something – either information that is relevant to them, or something they've never heard before that piques their interest. Above all, share your passion for your subject!

*Thank you Dr. Fowler!*

Science communication as a career path: Dr. Escobar, from researcher to professional science communicator in Japan

*Be an agent of positive change: empower others to lead the conversation*

Scientific research plays a fundamental role propelling society forward using innovative and revolutionary ideas. As a researcher, I was committed to this mission, and for most of my career I was keen to get work done. The thrill of living on the edge between the known and the unknown is exhilarating, and for the most part I wanted to accomplish something greater than myself. However, when it came to sharing my results with the world, I realised that I could not portray the impact of my work in a way that was satisfactory. For the most part, my peers would appreciate the skill and the technology developed, but whatever I had to contribute would just be swallowed into a sea of similar publications and soon forgotten, or at least it felt that way.

In pursuit of making an impact outside of my lab, I decided to dive into the world of science communication. By doing so, I found one big misconception on how I was handling my work. Whilst research itself is important, to truly understand how it will affect people’s lives and how they should be a part of the conversation is key. I have recognised now that I ignored some of these aspects during my period as a researcher, which led to developments that, albeit technically sound, would never reach people. Conferences, for example, are important tools for technical assessment and establishing collaborations, but they don’t give perspective on the true outreach potential of one’s work. Since society is the place where all these developments go ultimately, establishing dialogue and getting feedback from your target audience can boost your research and your overall outreach. As a science communicator working in a science museum, affiliated researchers yearn for feedback given by visitors, because it shapes how they will further conduct their experiments and defines which pressing issues should be tackled next.

By investing time on science communication, and now pursuing a career in it, I saw a way of impacting society in a more meaningful way. I believe that we – researchers, communicators, or educators – all have a moral imperative to impart knowledge and create environments where people can easily learn about complex topics, so that they can become agents of positive change in the world.

About the author: Dr. Matt Escobar

Dr. Escobar is originally from Porto Alegre in Brazil and received his B.Eng. and M.Eng. from the Federal University of Rio Grande do Sul. He moved to Japan in 2012, and obtained his Ph.D. in Machine Learning in 2015 from the University of Tokyo. He then worked for two more years as a researcher in the same team. In April 2017, Dr. Escobar joined the National Museum of Emerging Science and Innovation (Miraikan), to pursue his passion of being a full-time science communicator.
surrounding them. If done successfully, people can decide on their own how to lead a conversation, from a standpoint of evidence-based science. We live in a society where many are ignorant about all sorts of pressing matters, just because it seems too difficult to be a part of the conversation. While it is true that certain fields are more abstract, and therefore more difficult to grasp, there is always a way to convey enough information for basic understanding and appreciation. For those skeptical of space exploration, for example, despite most developments not affecting us directly in the short term, several products we use nowadays come from years and years of space research (LEDs, better firefighter gear, solar panels, etc.). Furthermore, increased awareness is required because certain issues are or will soon be affecting our lives (Climate change, artificial intelligence, etc.). To be a science communicator is to make sure that information can be easily digested, whilst empowering people to lead meaningful discussions.

In order to successfully communicate science, however, one cannot expect to always be thorough and to give a proper, technical explanation. The biggest challenge is conveying a meaningful message, whilst tailoring one’s speech to different audiences. On a daily basis, I talk to people from all ages and backgrounds, from 10 year-olds to 80 year-olds, from elementary school children to high-school dropouts, from office workers to Ph.D. laureates, and so on. Every person has a unique perspective and it is up to us, the ones who actually hold the information, to convey the message. The message is always the same, but how you approach it should differ. In order to be effective at it, one needs training. Communication is a skill, and as any other, it takes time and effort to develop it. Researchers should dedicate time to work on it, so to empower people with the agency to be a part of the discussion. That is what we should all aim for.

Science communication and outreach plans are a must-have for EU-funded projects

The EU’s flagship research and innovation funding programme, Horizon 2020, bases its strategy on the approach called Responsible Research and Innovation (RRI) which anticipates and assesses potential implications and societal expectations with regard to research and innovation. An RRI approach implies that societal actors (researchers, citizens, policy makers, business, third sector organisations, etc.) work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society.

In practice, RRI is implemented as a package that includes multi-actor and public engagement in research and innovation, enabling easier access to scientific results, the take up of gender and ethics in the research and innovation content and process, and formal and informal science education.
RRI promotes ‘Science with and for Society’ via, for example, actions on public engagement, open access, science education.

This translates also into objectives for communication and outreach within all projects funded under Horizon 2020, including the Marie Sklodowska-Curie Actions Individual Fellowships. Both within one’s proposal and within one’s project, a strategy for communication and outreach is necessary for success.

MSCA fellows are indeed expected to engage in communication and outreach activities as an integral part of their fellowship (see infobox). In the MSCA, public engagement is an important part of communication. The primary goal of public engagement activities is to create awareness among the general public of the research work performed under these projects and its implications for citizens and society. The type of outreach activities could range from press articles and participation in European Researchers' Night events to presenting science, research and innovation activities to students from primary and secondary schools or universities in order to develop their interest in research careers.

More about science communication within H2020:

- RRI within Horizon 2020
- The European toolkit for RRI
- Communication and outreach activities requirement for MSCA fellows
Albert, can you introduce yourself and your career path to our readers?

I came to Japan for my PhD studies after I was awarded a scholarship by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). I chose Kyushu University because it is a top Japanese University, and the hydrogen energy research programmes there are world-famous. Also, Fukuoka has a very good climate to live in, which made it easy for me to adapt to my new environment. Now, I am focusing on the synthesis, characterization and performance evaluation of electrocatalysts for fuel cells. My career is mainly driven by decreasing the cost of energy, energy sustainability, and solving CO₂ emission problems. One of the major futuristic energy conversion device that fits into the aforementioned issues, happens to be the fuel cell, therefore my research focusses on this.

Please give us a short explanation on your winning research project. What is the innovative point, which let “the wall fall” and what challenges did you have to overcome?

My research focused on a fuel cell (an electrochemical energy conversion device). Fuel cells use hydrogen fuel and oxygen, which undergo electrochemical reactions to produce electricity, with water as a by-product. Polymer exchange membrane fuels (PEMFCs) use platinum (Pt), a precious metal, as an electrocatalyst for the chemical reactions taking place. However, the platinum undergoes degradation during operation leading to performance reduction. Also, the high cost of platinum makes PEMFCs expensive. Research to reduce or replace Pt electrocatalysts with non-Pt group metal electrocatalysts is ongoing and promising, so this motivated me to be a part of this enthusiastic group of researchers.

My idea was the design and fabrication of a cheaper catalyst using earth-abundant elements (i.e. iron, nitrogen and carbon) for use in fuel cells. Therefore, a simple foaming method was developed to make a catalyst, which had very large surface area, unique microstructure, and high catalytic performance. The synthesis process overcame the need of several synthesis steps, the need of a template, safety and controllability issues and cost. These platinum-free catalysts can be used in low-cost PEMFCs, which can in turn be applied in generators, providing cheaper accessibility to electricity for off-grid locations.

One of the challenges I had to overcome was making the first decision to do research in this field. I knew it won’t be easy considering that nanotechnology-
related research is quite tough and competitive. Above all, the time I spent in the lab working on different recipes, studying thoroughly to get things done was the greatest hurdle I had to overcome. Additionally, challenging myself to present my work to a non-specialist audience has always been tough. However, I took up this challenge because I felt I had a message to spread, and I felt it was an opportunity to build my career.

**How did you find out about FWL Tokyo and what did you think of the event?**

I found out about FWL Tokyo through my supervisor. What caught my attention was the way young researchers get a chance to present their work in front of an audience of mixed professionals. From the beginning, I thought it would be a great opportunity to develop my presentation skills.

FWL Tokyo 2017 was well organised, and everything was done as scheduled. What I learnt from FWL Tokyo was that, in the end we were all winners, just participating helped us all to establish important professional networks. The organisers were extremely helpful from the day of application to the event day.

**FWL Tokyo is an international science communication contest. How important is science communication to you? On what aspect did you lay value to present your research project to a non-specialist audience?**

Since I am a researcher, science communication means everything to me. Not only do I need to communicate with researchers in my field, but also with researchers in other fields, and more importantly the general public. Research is largely funded by taxpayers’ money so there is a need to communicate back to the taxpayers in a simple and concise manner. Presenting my work to a non-specialist audience was a specific challenge to me, because it was the first time. Presenting a complex topic in under 3 minutes was such a challenging experience! After practising many times, I managed to keep my presentation simple, with more pictures which people could easily relate to. I simplified my graphs and used less text with equations and technical jargon. The only recipe to make it under three minutes was practice, just being able to visualise the entire presentation was important for me.

**How important do you think science communication is to the general public?**

Science communication is equally important to the general public as it is to researchers. The public needs to be aware of the current progress in science in a more understandable way. I think science communication, if done effectively, should lead the way in educating people and making them realize important issues in life. The general public will then be able to make informed decisions when choosing products, services and technologies.
Do you think that your science communication skills will have an influence on your career, or your ability to gain an appointment at your institution of choice or to convince investors or grant juries?

Having participated in FWL Tokyo 2017, I gained a lot of inspiration and motivation through networking with professionals from different fields. And for me being able to make my research understandable to these people from different backgrounds gives me confidence that I can do it at later stage in my career. Ever since that time, I have been working tirelessly to improve my science communication skills, to try my best to be accepted to work in world-leading institutions, or to convince grant juries to fund my projects. All the same, I would say there is more for me to learn in terms of science communication and I am eager to do so.

What would you wish for your future career? Do you have plans to go abroad, maybe to Germany or Europe?

My plan is to go to Europe as an exchange student during my PhD, and probably travel more often as a postdoctoral researcher. For my career to be bright in the future, I need to build up as many connections as possible right now. Travelling to Europe to work in other research groups is of paramount importance for my future, and also help to improve my research skills by learning from other groups.

Thank you Albert for your time and all the best for your career!
EURAXESS Japan Activities Update

Deadline soon! Call for abstracts: European Research Day 2017

The European Research Day is coming back to Tokyo on 4 December!

The European Research Day (ERD) brings together the European research community currently based in Japan to discuss research, careers and relation to Europe.

It is a one-day workshop featuring presentations by researchers from the European research community of Japan, selected through abstract submission, but also discussion panels on issues of relevance for Japan-Europe mobility and research cooperation, careers, and a networking reception.

- Learn about other researchers’ projects & careers!
- Discuss and get feedback on your own projects!
- Learn and reflect about your relation to Europe, and potential opportunities!

We invite all researchers, based in Japan and interested in sharing their experience and getting useful feedback from other attendees, to participate!

Abstract submission deadline: 16 October

Details, terms & conditions, abstract submission: bit.do/ERD2017Japan

Who can submit an abstract?

- Researchers, citizens of any country covered by EURAXESS: the EU-28 and Albania, Bosnia and Herzegovina, Faroe Islands, FYR Macedonia, Iceland, Israel, Moldova, Montenegro, Norway, Serbia, Switzerland and Turkey, for a total of 40 countries;
- Researchers from other nationalities (including Japanese) who have had a long-term (one or more years) experience in Europe;
- Researchers from other nationalities (including Japanese) who have concrete plans to relocate to Europe at a short or mid-term.

Applicants must be currently (i.e. at the time of the event) active in Japan at a recognised university or research institute/centre, public or private sector.

The call is open to researchers of all career levels from PhD students onwards (PhD students, postdocs, associate professors, professors, etc.) and from all scientific disciplines including social sciences and humanities.
Grant Proposal Peer-Review Service launched!

This free service, launched in early September, allows EURAXESS Japan community members to make grant proposal drafts available for reviewing by other researchers.

Indeed, while administrative or general reviewing systems may be available at Japanese institutions --mostly for Japanese grants such as Kakenhi; and in Europe for schemes such as the MSCA and ERC through the Horizon 2020 National Contact Point (NCP) network, it is often useful to have the scientific part of one's proposal reviewed by a researcher in a similar field (to ensure basic understanding of the proposal's science) but outside of the first circle of the applicant (to avoid bias).

With this service, 'applicants' can receive valuable advice on the scientific part of their proposal; 'reviewers' will indirectly obtain experience in grant writing and can valorize their participation in the review process.

Applicants: propose your draft to reviewers and get some valuable feedback!

Reviewers: provide applicants with comments and advice and get some valuable insight on how to draft your own projects!

Want to know more about this service? Worried about confidentiality, terms & conditions, practical aspects?

Check the service’s dedicated webpage at: bit.do/euraxess-grant-review