Invited EU Article: How to Write a Successful Marie Skłodowska Curie Action (MSCA) Proposal - A Guide by the Marie Curie Alumni Association (MCAA), North America Chapter

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EURAXESS
NORTH AMERICA

Dear Friends and Colleagues!

Being the gateway to the European Research Area (ERA), EURAXESS takes pride in providing an array of information on Europe’s vibrant and dynamic research landscape, from latest strides and achievements to funding and partnership opportunities through our new and improved portal and beyond!

This December issue, EURAXESS North America is very pleased to provide you with the latest news and developments from the ERA. As always, we strive to offer a section of articles to engage our growing community of researchers and science advocates in North America, include recent and very interesting R&D news from the European Research Area, Canada and the United States.

Finally, we take this opportunity to wish you a wonderful Holiday season and a lot of joy, love and happiness in the New Year 2019!

Enjoy reading the newsletter!

With Best Wishes,

Your EURAXESS North America Team
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1 EURAXESS Country in Focus: LITHUANIA

1.1 Introduction

From the world’s most powerful laser through to the extra-resistant glass used in over 4.5 billion smartphones, Lithuanian innovation is impacting research and product development globally. So, it’s not surprising that the 2018 Bloomberg Innovation Index ranked Lithuania 8th globally for "tertiary efficiency,” a category which includes enrolment in higher education and the number of graduates in key innovation sectors. Companies are currently assembling international-quality research teams in Lithuania at highly competitive costs, and there is strong and committed governmental support for R&D.

1.2 Research, Development & Innovation in Lithuania

The Ministry of Economy and the Ministry of Education and Science are the main institutions responsible for the formation and implementation of innovation policy in Lithuania. The other institutions involved in coordinating and implementing R&D and innovation policy in Lithuania are:

- The Research Council of Lithuania, which consists of a Research Fund and a number of expert committees. The council's role is to be an expert institution, implementing R&D policy and providing competitive funding.
- The Agency for Science, Innovation and Technology (MITA), which is the national organization for the implementation of innovation policy.
- The Research and Higher Education Monitoring and Analysis Centre (MOSTA), which operates as an advisory institution. It monitors and evaluates research, higher education and innovation, and other related activities, and provides evidence-based information and guidance.

The fundamental strategic documents that set the guidelines for innovation policy in Lithuania are:

- The Science and Innovation Policy Reform guidelines that were issued by the President's Office and adopted by the Parliament in 2016. This important policy reform initiative was launched to provide significant impetus to the country's innovation performance.
- The Innovation Development Programme 2014–2020. This programme was drafted with a view to mobilising state resources for two purposes: firstly, the improvement of Lithuania’s innovativeness, and secondly, the continued development of a competitive economy that is based on high-level knowledge, advanced technologies, skilled and well-qualified human resources and smart specialisation. The strategic goal of the programme is to enhance the competitiveness of the Lithuanian economy through the development of an effective system that promotes economic innovation.
The **Smart Specialization Strategy**, which is the main programme of state support for R&D in Lithuania. The following R&D and innovation priority areas are defined in the Smart Specialization Strategy: energy and environmental sustainability; agro-innovation and food technologies; health technologies and bio technologies; forming an inclusive and creative society; new production processes; materials and technologies; transport and logistics; ICT.

In order to fully exploit Lithuania’s scientific potential, **Open R&D Lithuania**, a new platform that brings together the main actors in this field, was launched. This network consists of 14 Lithuanian universities, 13 research institutes, and 7 science and technology parks. These institutions have united their high-level R&D intellectual potential, infrastructure and resources in order to provide science-based solutions to problems in business and society. This concentration of resources facilitates the creation of new technologies and products, the provision of R&D services, and the growth of the competitiveness of all the partners involved.

Support for R&D and innovative technology sectors has been made a national priority. As a result, between 2006-2013, Lithuania invested €411 million to develop its R&D infrastructure and science valleys. Another €679 million will be put into the further enhancement of Lithuania’s R&D capacity over the period 2014-2020.

### 1.3 Research Excellence in Lithuania

Lithuania has been planting seeds which are now bearing fruit, thanks to its longstanding focus on two areas: developing talents and professionals in scientific institutions, and investing into modern R&D equipment (more than €300 million has been invested in the last 7-8 years).

The most significant achievements of Lithuanian researchers to date have been in the fields of biotechnology, life sciences and lasers.

The most important factor in the success of the Lithuanian laser industry has been the continuous and diverse collaboration between researchers from scientific institutions and engineers from the private sector. This collaborative approach has become the foundation for constantly growing expertise in cutting-edge laser technologies. The products manufactured by the Lithuanian laser sector are extremely diverse. They include every kind of laser, along with optics, electronics, mechanical laser components, assemblies, elements and more. Lithuania accounts for more than half of the global market of pico-second laser spectrometers. These are widely exported to European countries, the USA, Australia, and Asia.

The laser manufacturing sector in Lithuania has recorded 15–20% year on year growth. Lithuanian laser products are exported to over 100 countries around the world - the largest clients are laboratories and research centres in the EU, the USA and Japan.
Lithuania is known for its world class researchers. For example, Prof. Virginijus Šikšnys from Vilnius University, working with Emmanuelle Charpentier and Jennifer A. Doudna, is credited as one of the inventors of CRISPR-Cas9, a precise nano-tool for editing DNA. These so-called DNA scissors allow scientists to correct disease-causing mutations and use gene therapy to cure serious diseases, such as muscular dystrophy, sickle-cell anemia, and some forms of blindness and cancer.

Another example is Prof. Arminas Ragauskas, a scientist at Kaunas Technology University who has invented two devices for measuring intracranial pressure and blood flow. His inventions enable the fast and safe diagnosis of traumatic brain injuries, strokes, glaucoma and brain tumours. Ragauskas’ innovative measuring devices are important tools for treating intracranial injuries, which are among the world’s deadliest killers.

### 1.4 Recruitment Opportunities

Lithuanian universities and research institutions offer study and employment opportunities to foreign researchers at all levels of their career, from doctoral students through to high level researchers. The Research Council of Lithuania provides a wide range of funding tools for research competence and skills development. It also works to promote international cooperation and activities to internationalize research. Foreign researchers are encouraged to work in Lithuania and, together with Lithuanian researchers, to participate in projects funded by the Research Council of Lithuania and other initiatives.

The Center for Physical Sciences and Technology (FTMC), the largest non-university research institution in the Baltic States, offers PhD studies in physical and technological sciences. These study programmes are open to international students, and talents from all over the world are very welcome to apply. Joint project collaboration is also promoted, and the FTMC looks forward to arranging exchanges not only of students, but also of scientists and engineers who have already graduated.

As most research is performed in public universities and research institutes, these are also where most research jobs are available. Many of the positions available are published on the EURAXESS webpage.

### 1.5 Funding Opportunities

Research in Lithuania is primarily financed on the basis of quality competition. Financing comes from the state budget, foreign funds (mostly EU), and several institutions.

The Research Council of Lithuania (RCL) is the principal national institution providing competitive R&D funding in Lithuania. Every year, the RCL publishes more than 30 calls for proposals. Click here for more information.

Lithuania also offers a wide range of direct and indirect public support for business R&D and technological innovation, aimed primarily at boosting private
investment in R&D. State support includes grants and subsidies, financial engineering schemes, public innovation support services, and R&D tax incentives on corporate income tax. In Lithuania, business R&D and innovation support schemes focus on funding R&D, procuring R&D services, and providing (mainly soft) support for innovation. Funding for innovation is mostly focused on startup and equity instruments. Click here for more information.

1.6 Important information for incoming researchers

The Research Council of Lithuania is the EURAXESS Bridgehead Organization in Lithuania. The EURAXESS network in Lithuania has 5 members: Kaunas University of Technology, Mykolas Romeris University, Vilnius Gediminas Technical University, Vilnius University, and Vytautas Magnus University. EURAXESS provides incoming researchers with up-to-date information related to mobility services.

In 2018, Lithuania launched a new programme aimed at attracting internationally-recognised foreign researchers to carry out research in smart specialisation areas and encouraging them to establish themselves in research and higher education institutions. These researchers are given a range of opportunities through this programme, including: implementing high-budget research projects; putting together and leading a research team; transferring knowledge and experience; and introducing advanced research methods and new practices. The programme is coordinated by the Research Council of Lithuania.

For employment opportunities, and to participate in projects coordinated by the Research Council of Lithuania, foreign researchers should apply directly to their chosen university or research institute.
2 How to write a successful Marie Skłodowska Curie Action (MSCA) proposal – a guide by the Marie Curie Alumni Association (MCAA) North America Chapter

This contribution provides a very concise overview of the topics we addressed in an extensive Workshop on MSCA Fellowships during EURAXESS North America’s European Research Day in Ottawa. Below we explain who qualifies for MSCA Fellowships, how you can write an excellent proposal, and what to expect if your application is successful. If after reading you would like to know more, then check out the ‘useful links’ at the end of the article and do not hesitate to contact the MCAA North America Chapter if you have questions.

There are five types of Individual Fellowships: European Standard (1-2 year fellowship for researchers coming to or moving within Europe), Career Restart Panel (for fellows with a career break of 12 months or more prior to deadline), Reintegration Panel (for fellows who wish to return and reintegrate in a longer term research position in Europe), Society & Enterprise Panel (for fellows who seek to work on research & innovation projects in the non-academic sector) and Global Fellowships (for fellows from Europe going to Third Countries (for 1-2 years) and returning to Europe (1 year)).

2.2 What’s in it for you, the experienced researcher?

You will not only have an extraordinary opportunity to acquire new expertise, new career perspectives and collaborations, but also will have the chance to work on exciting and personalized research projects within and beyond Europe. Mobility between academia and industry is highly encouraged. The fellowship includes a competitive salary, mobility and family allowance when applicable, and entails also a generous budget for training and networking.

2.3 How to start?

The best advice we can give you is: don’t start writing the MSCA proposal until you have done all the necessary research, thinking and planning ahead. If possible, you need to start preparing at least three months before you want to submit your MSCA proposal. This will give you enough time to get informed on the MSCA fellowships from various sources (e.g. Guide for Applicants, webinars, Marie Curie info sessions, contacting MC fellows/alumni, National Contact Points (NCP) etc.), to identify an excellent research topic and to find and approach an appropriate host partner(s). One criteria for an excellent and innovative research topic is that you are genuinely interested in pursuing it. In addition, it should also add value for others and contribute to European excellence and competitiveness. Be sure to emphasize how your excellent and novel research will open up the best career possibilities for you as a researcher, as well as new collaborations.
and scientific exchanges for the host organization(s). A successful MSCA proposal should also bring together innovative approaches/methods from diverse disciplines outside of your domain. It is, therefore, crucial to emphasize the interdisciplinary and multidisciplinary aspects of the proposal and to provide enough convincing arguments. In case you are unsure where to find universities/host partners interested to collaborate on your project, a good place to start is Euraxess, a platform that connects universities interested in hosting qualified Marie Curie fellows.

2.4 What to keep in mind when writing a MSCA proposal?

One possible pitfall could be that once you finished the scientific part (“excellence”), you think you’re almost done. Wrong! The scores on “impact” and “implementation” make up half of the total. Just like in the “excellence” section, you should also be as explicit as possible in the “impact” and “implementation” sections. How will your research contribute to science in general, or to the European society? It is important that you describe clearly and explicitly how the project will contribute to better career options for you as a scientist. Describe which courses you followed, and what the impact will be of such courses.

At different moments throughout your project it is important to communicate your research. Of course, you want to talk about your wonderful work to your fellow researchers, but remember that it’s also important to include a non-scientific audience. Describe what your communication goal is, and who your target group is.

The “implementation” section is about how you make the things, which you have proposed, actually happen. You should divide your research into so-called Work Packages; one or more Work Packages should be allocated for your scientific part, one Work Package for training, and one Work Package for dissemination.

2.5 How do I proceed if my application was unsuccessful?

If you are on the reserve list, check with your NCP if they know which your position on the list. Your proposal may still get funded!

If not, carefully read the reviewer’s comments. You are allowed to re-submit your proposal during the next call (for conditions see H2020 Guide for applicants for MSCA IF).

2.6 What happens if my application was successful?

You celebrate of course!

The next step is signing the Grant Agreement by the Beneficiary (the legal entity that is responsible for the implementation of the MSCA, your home institute) and, if applicable, signing of a Partnership Agreement by all members involved in the project. Per the MSCA guidelines, the Beneficiary must appoint you under an employment contract for the duration of the project. In addition, you can also sign an employment contract with your host institute.

After the official paperwork, you start to prepare for your move to the country of your host institute (make sure you take enough time for this, at least a couple of months). Things to consider:
- Do I need a visa and/or work permit (for Global Fellowships)? You will need to acquire a Job Offer Letter from your host institute.

- What is the housing situation like in the place you will go to? Does the host institute provide any support finding housing? Many cities offer short-term housing possibilities, making it easier to move there first and look for long-term housing after you arrive.

- What about bank accounts, insurance and a driver’s license? When going to North-America, it is advisable to open a bank account and get local insurance. It is possible that you can make use of benefits via your host institute. You can also choose to take out an expat insurance which can cover household items, travel (also if you need to return to your home country in case of an emergency) and health costs.

2.7 Conclusion
MSCA Fellowships offer researchers across the globe excellent opportunities to acquire new skills, strengthen your career perspective, and initiate international collaborations. Be careful to take the time to prepare your application, starting three months or more before submission is recommended. When actually writing the proposal, keep in mind to be very explicit about your research, training, and implementation. Be as concrete as possible (e.g., I will follow the System Dynamics course in April 2019 in New York, allowing me to….)!

Do not get discouraged when you are not awarded the fellowship the first time, you are allowed to re-submit your proposal during the next call. When your application was successful, be careful to take the time to arrange all necessary steps such as visa, contracts, health insurance, housing, social security numbers, etc. But most importantly, celebrate the wonderful possibilities that will arise from your MSCA Fellowship!
3 HOT TOPIC: A Framework for Public Engagement with Science

Scientists and engineers increasingly find themselves called to engage with the public, whether discussing research with friends and family, joining the conversation on a community issue or engaging with the media, among other scenarios. Many academic programs, however, do not offer communication and engagement training as part of their curricula.

The American Association for the Advancement of Science (AAAS), acting on its mission to “advance science, engineering, and innovation throughout the world for the benefit of all people,” responds to this need by offering scientists resources and opportunities to engage effectively with the public.

The AAAS Center for Public Engagement with Science and Technology (“the Center”) offers a range of programs designed to enable scientists to learn more about and improve their practice of public engagement. In November 2018, the Center offered a seminar during the 2018 European Research Day in Ottawa, highlighting public engagement best practices. This one-hour seminar summarizes content from our Communicating Science workshops. Since 2008, we have provided more than 225 workshops for more than 7,000 scientists and engineers at universities, science society meetings, and government agency labs in the US and abroad. Here, we share a brief overview of the Science Communication and Public Engagement Fundamentals seminar.

3.1 What is Public Engagement with Science?
AAAS defines public engagement as “intentional, meaningful interactions that provide opportunities for mutual learning between scientists and members of the public.” As former AAAS chief executive officer Alan Leshner put it in a 2003 Science editorial, “we need to engage the public in a more open and honest bidirectional dialogue about science and technology and their products, including not only their benefits but also their limits, perils, and pitfalls. We need to respect the public’s perspective and concerns even when we do not fully share them, and we need to develop a partnership that can respond to them.”

Many of the challenges we face as a society – from climate change to public health to artificial intelligence – have science and technology at their core. To move forward on these issues and make decisions as a society, we must foster dialogue among scientists and other members of society. Rather than simply informing society, a public engagement approach builds on public understanding and uses conversation to address questions or concerns on scientific topics. This two-way model of communication also allows scientists to learn from the public, enriching their research with new viewpoints and direct input from people affected by that research.
The Framework

The AAAS framework for public engagement with science (at left) can guide scientists in planning, implementing and evaluating their public engagement.

3.2 Planning for Public Engagement

Careful planning is essential to successful public engagement. The first step is to identify your goal for engaging. Answer these questions to form an actionable goal: Why do you want to engage? What do you hope will happen as a result? Use your goal as a guide to identify the relevant audience(s), essential topics of discussion, best channels for connecting with the audience, and how you’ll evaluate your success.

Second, it’s critical to consider your audience. Be as specific as you can, such as 8th grade students at a middle school in your hometown or staff in your local government representative’s office. Then, consider that audience’s unique values, needs, and concerns and, importantly, what you have in common with that audience. This will help you connect with them. Think about what they will want to know from you. Anticipate their questions.

Third, develop three key ideas around which to center your discussions. Even seasoned scientists can find that confidence in their own expertise wanes when away from the bench. Developing messages ahead of time, centered around key ideas relevant to the audience, helps instill focus and confidence and prepares you for an audience-driven conversation.

While scientists often leave the most impactful information – the findings – until the end of a scientific paper, the public is used to seeing that information up front (think of a newspaper headline). To capture your audience’s attention, discuss your “bottom line” information at the outset, being sure to explain the “so what?” or why it matters to the audience.

Formalize your key ideas into three messages that are miniature, memorable, and meaningful to help you convey them as clearly and effectively as possible. Miniature messages are concise, distilled into key words or phrases that are easy to remember. Make your messages memorable using verbal cues such as alliteration or rhymes, or use analogies, pop culture references, or stories. Finally, make messages meaningful by infusing emotion and connecting to the audience’s values, interests, and concerns.

For example, AAAS summarizes our What We Know initiative in three short messages: 1) climate scientists agree, climate change is happening here and now, 2) we are at risk of pushing our climate system toward abrupt, unpredictable, and potentially irreversible changes with highly damaging impacts, and 3) the sooner we act, the lower the risk and cost, and there is much we can do. This
summary suffices for a 30-second description of the initiative and can also be explored more fully during a longer conversation.

The key points in this example can be miniaturized even further using three words: reality, risk, and response, which are memorable thanks to alliteration (each word begins with the letter ‘r’). Addressing common questions such as “what can we do?” and discussing the impacts of and responses to climate change relevant to a particular audience as a part of a conversation makes the messages meaningful.

Finally, use your audience’s language and avoid technical terms that are specific to your discipline. An audience who is reluctant to ask for clarification will not get much out of a conversation.

3.3 Implementing a Public Engagement Plan
Once you’ve identified your goal, audience, and message, develop a concrete plan for action. Start by reflecting on how you wish to be perceived by your audience and who you represent. If appropriate, work with your institution’s media relations or outreach office. Then, identify how and when you’ll connect with your audience.

AAAS identifies five major approaches to public engagement: 1) everyday engagement, informal and incidental interactions, such as a chat with a taxi cab driver, 2) public dialogue, which focuses on cultivating conversation about science, such as a Science Café or Facebook Live chat, 3) policy deliberation, focusing on specific actions in response to science-society issues, such as in meetings with a policymaker or a town hall meeting, 4) knowledge co-production, integrating public participation into research via citizen science, for example, and 5) university-led cooperative engagement, or providing expert consultation to professional communities, including cooperative extension.

Consider which approach works best for your goal and your audience. Then, solidify your next steps: what will you do tomorrow, this week, this month, etc., to put your plan into action?

3.4 Evaluating Public Engagement
The final element of public engagement is evaluation. Tune into your audience as you engage. Be responsive to their body language. Ask questions to check for understanding. After engaging, evaluate yourself. Ask “what went well?” “what should I change?” and “did I accomplish my goal?” Adjust accordingly. Finally, a formal evaluation such as an audience survey, a phone call, or a reflection on what happened because of the engagement will prepare you for future engagement opportunities.

Effective public engagement happens over the course of a career and evolves over time. We encourage you to continue to develop your public engagement skills. Visit our online Communication Toolkit for additional resources or email us at CommunicatingScience@aaas.org.
### Event Outlook

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<thead>
<tr>
<th>Event</th>
<th>When</th>
<th>Where</th>
<th>Organized by</th>
<th>Link</th>
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<tbody>
<tr>
<td>AAAS 2019 Annual Meeting</td>
<td>14-17 February 2019</td>
<td>Washington, DC, USA</td>
<td>American Association for the Advancement of Science (AAAS) (EURAXESS North America will be present as part of the European Commission’s booth)</td>
<td>Link</td>
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<tr>
<td>MIT European Career Fair 2019</td>
<td>16 February 2019</td>
<td>Cambridge, MA, USA</td>
<td>MIT European Club (EURAXESS North America will be present with a booth)</td>
<td>Link</td>
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### About EURAXESS North America

EURAXESS North America is a network of thousands of European and non-European researchers, scientists, and scholars throughout North America (USA and Canada). This multidisciplinary network includes members at all stages of their careers. It allows them to connect with each other and with Europe, ensuring that they are recognized as an important resource for European research, whether they remain in North America or return to Europe.

For further information about EURAXESS North America, please visit: [http://northamerica.euraxess.org](http://northamerica.euraxess.org).

To sign up for membership in our network, please go to our [website](http://northamerica.euraxess.org) and click on Sign up and become a member for free button.