Dear Colleagues,

Welcome to the first edition of the EURAXESS ASEAN quarterly newsletter 2019.

International collaboration and mobility are the drivers of scientific advances. The EU-funded Marie Skłodowska-Curie Actions (MSCA) Individual Fellowships offer great opportunities for ASEAN-based researchers to conduct research in Europe – and for ASEAN-based institutions to host a European Fellow. In our Briefing section we introduce the forthcoming MSCA-IF call and feature an interview with MSCA Global Fellow Dr Orazio Aiello.

Information on European research mobility programmes and hands-on advice on the application modalities are central to the traveling EURAXESS ASEAN mobility platform European Research Day. In Focus lists the forthcoming stops of this popular event series.

Measuring the economic and societal impact of research is a Hot Topic for both scientists and funding bodies not only in Europe but indeed all over the world. The President of the European Research Council (ERC) Prof Jean-Pierre Bourguignon shared his views at the recent Coimbra Group of Universities Meeting in Italy.

We hope you enjoy reading our newsletter, and welcome your feedback.

Your EURAXESS ASEAN team
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EURAXESS ASEAN Newsletter is a quarterly electronic newsletter, edited by EURAXESS ASEAN, which provides information of specific interest to European researchers in ASEAN and international researchers who are interested in the European research landscape and conducting research in Europe or with European partners.

The information contained in this publication is intended for personal use only. It should not be taken in any way to reflect the views of the European Commission nor of the Delegations of the European Union.

Please email to asean@euraxess.net for any comments on this newsletter, contributions you would like to make, if you think any other colleagues would be interested in receiving this newsletter, or if you wish to unsubscribe.

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1 BREIFING: Postdoctoral Research with a Marie Skłodowska-Curie Actions (MSCA) Individual Fellowship

Are you interested in a two-year postdoc stay in Europe with EU funding to work on your dream project? Then the highly prestigious MSCA Individual Fellowships should be on your radar. The next call for proposals will open on 11 April with a deadline of 11 September 2019. The call has a value of €294 million.

The Marie Skłodowska-Curie Actions (MSCA) contribute to excellent research, boosting jobs, growth and investment by equipping researchers with the new knowledge, skills and international and intersectoral exposure to fill the top positions of tomorrow and solve current and future societal challenges.

The MSCA thrive by being open to all domains of research and innovation, chosen freely by the applicants in a fully bottom-up manner. They are based on the principle of mobility, and researchers can receive funding on the condition that they move from one country to another to acquire new knowledge and develop their research career.

There are two types of Individual Fellowships: European Fellowships and Global Fellowships.

- **European Fellowships** are open to researchers of any nationality moving TO EUROPE for their fellowship.

  These Fellowships are held in the EU or associated countries and last for one to two years.

- **Global Fellowships** are open to researchers of any nationality who are based in the EU or associated countries moving TO THE WORLD (including ASEAN) for their fellowship.

  These Fellowships last between two and three years. The researcher has to come back for one year to an organisation based in the EU or associated countries.
Both types of Fellowship can also include a **secondment period** of up to three or six months in another organisation in Europe.

MSCA Individual Fellowships are open to **experienced researchers** from across the world.

Applicants need a doctoral degree or at least four years' full-time research experience by the time of the call deadline.

**All research areas** can be funded. MSCA Fellows come from a wide variety of disciplines – from physics to linguistics, and from health-sciences to mathematical modelling.

The grant provides an **allowance to cover living, travel and family costs**. In addition, the EU contributes to the training, networking and research costs of the fellow, as well as to the management and indirect costs of the project. The grant is awarded to the host organisation, usually a university, research centre or a company in Europe.

Applicants submit a **research proposal**, including their CV. The proposal is **written jointly with the chosen host organisation(s)**.

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**I want to go to Europe with an MSCA-IF European Fellowship. How do I find a host?**

- Search the EURAXESS Database of Hosting Offers.
- Search the Net4Mobility+ Database of Expressions of Interest.
- Be proactive! Contact your network of European collaborators, and ask for assistance from your supervisor, research colleagues or International Relations Office.

**I want to host a researcher with an MSCA-IF Global Fellowship at my institution in ASEAN. How do I find a fellow?**

- Post your hosting offers on the EURAXESS portal. **Follow this step-by-step guide.**
- Do inform your research network and colleagues based in Europe of your institution’s hosting offer.
Dr Aiello, you have just completed your research stay as a Marie Skłodowska-Curie Actions Global Fellow at NUS in Singapore. Can you tell us a little about the research you conducted during your stay?

I am currently leading a MSCA IF-GF project named ULPloT: Ultra-Low Power and Highly-Scalable Interfaces for the Internet of Things H2020-MSCA-IF-2015.

The project is a joint collaboration between the National University of Singapore where I have spent two years of my MSCA working with Prof. Massimo Alioto, and the Politecnico di Torino in Italy where I work with Prof. Paolo Crovetti.

ULPloT is intended to unify the design methodology of analog and digital Integrated Circuits (ICs). The possibility to exploit the digital (automated) design flow even for analog building blocks can dramatically reduce the design effort of any system-on-chip that face with analog signal. This is in order to address the fundamental challenges of size shrinking, reduction of design effort and energy-efficiency for the incoming Internet of Things (IoT) applications.

What motivated you to spend your MSCA fellowship in Singapore?

Singapore is a world-renowned technology ecosystem and a fast-growing economy. Furthermore, the National University of Singapore is a leading global university. In particular, the easy access to the silicon wafer production makes its Electrical and Computer Engineering (ECE) Department a coveted destination for researchers in the field of ICs from all over the world.

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1 For more details and the latest ULPloT outcomes please visit the official website: [https://sites.google.com/view/ulpiot/home](https://sites.google.com/view/ulpiot/home)
Apart from that, my project has matched the aims of the NUS supervisor, Prof. Massimo Alioto and his Green IC group. ULPIoT fulfilled the strict quality requirements requested to work in such a competitive scenario in order to reach a win-win collaboration.

A good fit between the applicant and his host institution is very important for a successful application. Can you describe to us the key steps in preparing the joint application?

Yes, you are totally right. I guess that my project has been highly valued by the MSCA reviewers because it is complementary to the research areas of energy-scalable and ultra-low voltage circuits and system of the NUS ECE Department.

The first step in preparing a joint application is to find enthusiastic persons to pursue excellence in science.

Having contacted by mail Prof. Alioto, he appreciated my ideas, and he immediately supported my MSCA application. Based on that, I started to write my proposal. As MSCA is a very competitive (and prestigious!) funding scheme, any minor detail can have an impact on the final result.

The first year I applied for the MSCA, my score was not enough to be funded. Learning from my mistakes, and improving the proposal I was very proud to receive a positive result to my application the following year.

As is well-known, the main criterion for a successful MSCA application is the scientific excellence of the proposed project.

I also believe that the scientific reputation of the persons involved in the projects (i.e. Prof. Massimo Alioto for NUS in Singapore and Prof. Paolo Crovetti for Politecnico di Torino in Italy) plays a role in making a project highly valuable, showing its resilience against up-coming problems.

What about the financial aspect of the fellowship? Did NUS have to pay a salary to you?

My salary has been paid by the Politecnico di Torino in Italy with the funds I got from European Commission as an MSCA IF Global Fellow. Other funds for my travel expenses (i.e. participation at international
conference) have been transferred to NUS. A minimum allowance and the health insurance have been kindly provided by NUS.

**How has your research stay outside of Europe benefited your career development?**

As an MSCA Individual and Global Fellow, I have gained an international reputation in the field of innovative, low power and highly scalable Integrated Circuits design. Interacting daily with top academics and getting access to the top conferences in the field of analog and digital ICs has increased my visibility as a scientist.

My project’s breakthroughs have been reported by the international scientific press. A complete review can be found here: [https://sites.google.com/view/ulpiot/press](https://sites.google.com/view/ulpiot/press)

**And how do you think has NUS as your host institution benefited from your research stay?**

Since ULPIoT perfectly matches with the research activities of the ECE Department at NUS, a constructive synergy between Singapore and Europe has been built on the basis of shared research interests.

**What are your plans for the future?**

I have another year to be spent back in Europe to complete my MSCA. Then, I have still not decided.

**Thank you Orazio and good luck for your future career!**

**Further information:**

[MSCA Website](https://ec.europa.eu/programmes/horizon2020/en/)  
[MSCA-IF 2019 Call for Proposals](https://ec.europa.eu/programmes/horizon2020/en/)  
Webinar slides [How to write a successful MSCA-IF proposal](https://ec.europa.eu/programmes/horizon2020/en/) (German)  
Horizon 2020 National Contact Point for the Marie Skłodowska-Curie Actions (NCP MSCA)  
[Marie Curie Alumni Association SEA Chapter](https://ec.europa.eu/programmes/horizon2020/en/)

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EURAXESS ASEAN will embark on another round of European Research Days across Southeast Asia. This highly popular event series invites researchers of all nationalities and all scientific disciplines to find out about European-funded researcher mobility programmes and research collaboration opportunities with European partners.

European Research Days are an opportunity for researchers based in ASEAN to engage with representatives of European funding agencies. Each event agenda also includes best-practice sharing sessions on various aspects of research career development, i.e. science communication, proposal preparation or how to build a research network with international partners.

Participants will also have the opportunity to network with fellow researchers who have already benefited from these programmes, and to gain practical tips from them on how to be successful in their application.

The European Research Days are open to PhD candidates, post-doctoral researchers and established researchers of all disciplines and all nationalities. Representatives of university research offices and International Relations offices are very welcome to join.

Registration for all events is compulsory. Registration details will be announced on our Facebook page in the coming weeks. Follow us now to be among the first to receive event updates!
3 HOT TOPIC: How to Define Research Impact

This is a publication of a speech delivered by ERC President Prof. Jean-Pierre Bourguignon at Coimbra Group of Universities Meeting in Venice, Italy on 6 December 2018. It has been published on the website of the European Research Council (ERC).

Thank you for inviting me here today to discuss the very important subject of how to define and measure research impact.

I am afraid that you have been exposed to what people call “a growing unease amongst policy-makers and the public with the lack of immediate societal or economic impact of publicly funded research”.

A sign that this pressure is mounting can be seen from the fact that the 2019 Annual Meeting of the Global Research Council (GRC), bringing together heads of research funding agencies from around the world (last year 70 countries represented), includes in its agenda a discussion on ways in which research funding organisations respond to increased expectations of societal and economic impact.

In reality the question of the economic value of science is as old as science. We are told for example, that in 1850 the great scientist Michael FARADAY was asked by the then UK Minister of Finance: "What is the practical value of electricity?", to which he is said to have replied: "Why, Sir, there is every probability that you will soon be able to tax it."

So, this debate is not a new one, and one can say very broadly that two schools of thought regarding this have arisen over the years.

Firstly, there are those who believe in a science led approach. That is, one should fund the best proposals put forward by scientists themselves selected by their peers as the surest way to generate good science, that will then lead to societal and economic impact.

Secondly, there are those who believe in a relevance-led approach. That is, one should fund projects in priority areas defined by society to ensure scientific results which are relevant to the needs of society.

On the face of it, these seem rather different approaches and the discussion of which is the best can become rather heated with real consequences on how research funders operate and how they relate to the scientific community.
You will sometimes see the debate framed as being between, on the one side, idealistic academics who wish to do "science for science's sake" and be left alone in their ivory tower, and on the other, hard-headed policy-makers protecting the interests of the taxpayer and caring for the wellbeing of citizens.

One can also consider the photo negative of this framing, namely when scientists claim that bureaucrats and politicians should not meddle in a scientific process which they do not understand.

Needless to say, it is rather unhelpful to frame the debate in either of these ways.

So, let me be clear from the start: I have no doubt all of us, who have been given the responsibility of spending (large) amounts of public money, feel a strong obligation to spend it well. Researchers tend to be very highly motivated individuals and go into science to make a difference. Let's face it: the overwhelming majority of us do not go into science to become rich!

The question therefore is not one of motivation. In reality, the only question is how to achieve the best results.

And here I think there is actually a large measure of consensus.

For over 200 years, economists have been studying the classical factors of production: land, labour, and capital. But, starting with Robert SOLOW (who won a Nobel Prize for this work), economists in the 1960s and 70s came to realise that at most half of the historical growth could be explained by known factors. The rest could only be explained by introducing a new factor of production: technological progress.

Nobody now disputes this claim. The issue, if you are primarily concerned with economic impact, is therefore how best to support technological progress. And here again there is a high level of consensus. Firstly, it is accepted that technological progress requires both basic or curiosity-driven research and applied research. Secondly, it is accepted that governments bear the central responsibility to fund basic research. That is, because the applications of such research cannot be foreseen, and possibly come with a long time-lag between fundamental discoveries and their translation into practical returns.

And again, very few now dispute this form of “division of labour”. According to the OECD’s latest innovation strategy document from 2015, “public investment in scientific research is widely recognised as an essential feature of effective national innovation systems. Public research plays a key role in innovation systems by providing new knowledge and pushing the knowledge frontier. Universities and public research institutions often undertake longer-term, higher-risk research and complement the activities of the private sector. Although the volume of public R&D is less than 30% of the total OECD R&D, universities and
public research institutions perform more than three-quarters of total basic research.”

So why then do we in the basic research community feel that we are under constant pressure to justify our activities and our budgets? I believe that there are two related reasons.

The first one is that, even if the importance of basic research for technological progress is accepted, the way science relates to it and to economic growth is inherently complex and still poorly understood. Too simplistic models tend to prevail in the minds of many: “you put enough money on a problem, and it gets solved”.

The misunderstanding may arise from the many successes of the past. As people have seen a sustained stream of findings, technologies and innovations appear decade after decade, some people have come to think of it as an easy and, in the end, predictable process. Non-scientists could therefore grow impatient and imagine they can order whatever “innovations” they might like, as if from a menu.

But of course, we know that science does not and cannot work that way. First of all, let me insist that we do care about the scientific impact, the ways disciplines transform themselves because of new results, new concepts, new models... and of course also for experimentalists new scales, whose exploration becomes accessible due to new tools. We must always recall that new domains of science appear all the time, and new combinations of science become fruitful and require a new attitude and a new spirit from scientists.

Coming back to technologies, we must stress that they harness natural phenomena. These phenomena exist in the world regardless of our desires.

It was not decided one day that better means of communication were needed and then somebody discovered electromagnetic waves. They were found by Heinrich HERTZ who emphasised the beauty of physics and who based his work on the theoretical considerations of Sir James Clerk MAXWELL.

The basic circuits used in computers were not found by people who wanted to build computers. They were discovered in the 1930s by physicists dealing with the counting of nuclear particles, their topic of interest.

Many of the commercially successful inventions that have driven economic growth in the last decades come from research conducted with no commercial purpose. This was clearly stated by Claude SHANNON, one of the founders of “Information theory”, that today lies at the heart of all the tools we are constantly using, from mobile phones to television, and that made internet possible. Here is what he said: “I am
very seldom interested in applications. I am more interested in the
elegance of a problem. Is it a good problem? An interesting problem?”.

In 2012, one of the first to recognise the significance of CRISP-R which
allows a totally new approach to genetic engineering, was Jennifer
DOUDNA, who began to work in this area because she thought “the
chemistry might be cool”.

Now, my second reason is that we scientists need to do a better job of
explaining how science works. Sometimes we too easily say, “leave it to
us, just give us more money and great things will happen”. If we behave
like this, then we ourselves are contributing to the impression that
science is easy and predictable, when we all know it is hard work and
we often fail! We need to be clear that basic research is essentially
trying to understand how things work. This can in some circumstances
lead to identify new phenomena, i.e. phenomena nobody has ever come
across, or develop new concepts thanks to which we can make sense of
these otherwise unexplainable features.

We also need to be honest that not every project or research
programme will deliver a “breakthrough” in our knowledge. There is
indeed no linear process by which scientists make discoveries, then
harnessed through a complex chain of actions.

We therefore need to contest the idea that asking researchers to
address impact ex ante as only possible basis for having their research
funded can do no harm. Forcing researchers towards expected,
intended and immediate impact risks missing out on truly
transformational discoveries. It can also lead to gaps in scientific
knowledge in areas, which are not of societal interest at one point in
time, but might be so later, and even become of paramount importance.
In recent years health care has provided ample evidence of the need to
anticipate society’s needs. Moreover, requiring scientists to set out what
the impact of their project will be beforehand may decrease trust in
science if these promises are not delivered. Further, the channels
through which basic research feeds into the economy are many and
diverse. It is not just about the occasional breakthroughs.

Did you know?

In 2018, an independent study on the output of frontier research
funded by the ERC shows that 79% of projects were of major
impact: 19% led to a breakthrough and 60% to a major scientific
advance. Almost half of the projects have already left their mark
on the economy, society and policy-making, whilst around
three quarters are foreseen to do so on the medium- and long-
term.
Fundamentally, basic research increases the stock of useful knowledge, both codified (e.g. in terms of publications) and tacit (skills, knowhow and experience). It plays a decisive role in training skilled graduates and researchers in solving complex problems, produces new scientific instruments and methodologies, creates international peer networks through which the latest knowledge circulates efficiently, and can even raise new questions about societal values and choices.

A strong science base allows countries to be at the forefront of knowledge creation because, without this knowledge, individuals, firms or countries lack the capacity to identify and absorb potentially exploitable knowledge created elsewhere.

Of course, we could say much more on the interactions between basic research, technological progress and economic growth.

It is time now for me to conclude.

While I do not believe that limiting research funding to an elite group of researchers is enough to guarantee that any particular scientific project will have a strong “impact”, it is clear to me that our fundamental duty is to try and educate policy makers about the very process by which science feeds innovation.

We must explain to them why it is legitimate to refuse to get into the game of trying to demonstrate the unknowable a priori, and to limit the indispensable breadth needed to consider science from many angles.

In a nutshell, the best bets are made when scientists are pushed to their boundaries when submitting research proposals, and the most competent evaluators are confronted with these challenging projects. You may have to press them to take on risk, as our community is actually spontaneously conservative and needs to be put outside of its comfort zone to accept some bets. This is precisely what the European Research Council is about, and I hope it plays its part in this process of educating policy-makers.

Finally, and this is not a minor issue, we must not forget that the most essential constituents of the research system are the researchers themselves, the human beings who make all this exist and function. In consequence it is of the greatest importance that the system provides them with a decent career path as nobody would enter a demanding working environment without being given some assurance that there is a chance to advance and be rewarded. It is there that you, in charge of important European universities, have a central role to play as you are the main providers of employment for them and the key channel to bring
talented young people into the profession. Of course, to do that you need to be given the means to create the right conditions.

If these basic conditions are not met, we should not be surprised that the best researchers simply leave Europe to carry out their dreams elsewhere or leave research altogether. Any country, region or institution that wants to improve its capacity to deliver the best research needs to get these conditions right, and Europe would benefit greatly by providing the right platforms to share best practices.

In particular, together we need to plot out a sustainable career path for talented young researchers across Europe. Getting this right is far more important than any particular rules we might decide to apply to our calls for proposals. This is why we need to prepare ourselves in the right way to the fight to secure future resources for activities we all cherish…

Even if these activities are so relevant, in the long and short term, for the development of the society we live in, a society that must respect the core values academia represents. A key one is academic freedom, presently threatened in a number of countries in the world, including in Europe. We must defend it without compromise. This is our utmost duty!

I thank you for your attention.

The ERC’s mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields, on the basis of scientific excellence.

Being 'investigator-driven', or 'bottom-up', in nature, the ERC approach allows researchers to identify new opportunities and directions in any field of research, rather than being led by priorities set by politicians.

Information on the ERC and ERC Research Grants is available on the official website.

For an overview of ERC activities and achievements see the 2018 annual report.
In Case You Missed IT…

**European Open Science Cloud Launched**

The EOSC web portal is a universal entry point with the potential to help 1.7 million researchers and 70 million professionals in science, technology, humanities and social sciences to overcome geographical and institutional barriers. [Find out more.](#)

**EURAXESS Prize 2019**

EURAXESS ASEAN will award the EURAXESS Prize 2019 to the winners of the FameLab competitions in Malaysia and in Thailand. [Find out more.](#)

**European Artificial Intelligence Platform AI4EU Launched**

AI4EU brings together 79 top research institutes, SMEs and large enterprises in 21 countries to build a focal point for artificial intelligence (AI) resources, including data repositories, computing power, tools and algorithms. [Find out more.](#)

**EURAXESS Members in Focus: Croatia**

40 European countries are part of the EURAXESS network. Here we focus on Croatia, a young and dynamic country offering an increasing number of opportunities to carry out excellent research and to turn it to practical application or business ideas.

The country file can be accessed [here.](#)
Launch of EURAXESS ASEAN Funding Guide

EURAXESS ASEAN has launched an electronic Guide to Research Funding & Fellowship Opportunities in Europe. The guide provides an overview of the schemes available to researchers in ASEAN. The latest edition can be accessed here.

Stay updated on European Funding Opportunities – Sign Up for the EURAXESS ASEAN Flashnotes

EURAXESS Flashnotes are bi-monthly emailers on European research funding and mobility programmes.

To join our mailing list, please send us an email at asean@euraxess.net with the heading “join Flashnote mailing list”

5 About us

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

Visit us at asean.euraxess.org and Join the EURAXESS ASEAN community.

EURAXESS Worldwide networks have thus far been launched in North America (USA & Canada) Japan, China, India, Korea, and in ASEAN (currently focusing on Singapore, Thailand, Malaysia, Vietnam and Indonesia). As of March 2017, the EURAXESS Brazil network has been expanded to cover Latin America and the Caribbean States as well with a focus on Brazil, Mexico, Colombia, Chile, and Argentina. In June 2018, the virtual EURAXESS Australia & New Zealand network went online.