

**EURAXESS Korea
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Contents

EURAXESS Members in Focus: Croatia.....	2
CROATIAN S&T FUNDING AGENCIES	2
CROATIAN RESEARCH AND INNOVATION INSTITUTIONS	3
Study in Croatia	4
Important information for incoming researchers: EURAXESS Croatia.....	5
Hot topic: Status update of gender equality in research careers in Europe.....	7
Global overview	7
The 'leaky pipeline' and its evolution over time	8
Very slow improvement in STEM fields	10
Gender gap in international mobility of researchers	11
Gender pay gap in research careers	12
Gender equality policies and gender distribution in Marie Skłodowska- Curie Actions.....	13
Gender equality policies and gender distribution in European Research Council grants	15
Meet the Researcher: Korean MSCA ITN grantees!	18
EURAXESS Korea Activities Update	23

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EURAXESS –
Researchers in Motion
is an initiative of the European
Research Area (ERA) that
addresses barriers to the
mobility of researchers and
seeks to enhance their career
development.

This pan-European effort is
currently supported by 40
countries, of which we will
profile one in our quarterly
EURAXESS Korea e-
newsletter. Here we focus on
Croatia.

EURAXESS Members in Focus: Croatia



Croatia is situated in South East Europe, at the crossroads of Central Europe and the Mediterranean, neighbouring five countries on land border: Bosnia and Herzegovina, Slovenia, Hungary, Serbia, and Montenegro. The Croatian Adriatic coastline is one of the most indented coastlines in Europe, next to the Norwegian fjords.

The International Monetary Fund classified Croatia as an open and developing economy and the World Bank defined it as a high-income economy.

CROATIAN S&T FUNDING AGENCIES

Scientific research in Croatia is monitored and conducted in six fields of science: natural sciences, technical, biomedical, biotechnical and social sciences, and humanities. The entire system of science and technology is financed through direct project financing with a mechanism of annual monitoring of results, through financing of junior researchers on concrete projects, with multi-year monitoring of their progress and financing of equipment.

The main funding bodies, in addition to the Ministry of Science and Education (MSE), are the Croatian Science Foundation (CSF) and the Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO). Through the Regional Competitiveness Operational Programme and Operational Programme Human Resources Development, Croatia is combining European Regional Development Fund (ERDF) and European Social Fund (ESF) for funding development of science and research.

Croatian Science Foundation (CSF)

Croatian Science Foundation was established by the Croatian Parliament in December 2001 under the name The National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia. Its mission is to promote science, higher education and technological development in Croatia in order to ensure the economic development and to support employment. The Foundation provides support to scientific, higher education and technological programmes and projects, fosters international cooperation, and supports the realization of scientific programmes of special interest in the field of fundamental, applied and developmental research.

Croatian Agency for SMEs, Innovations and Investments (HAMAG-BICRO)

HAMAG-BICRO is the Croatian Agency for SMEs, Innovation and Investments established by the Government of the Republic of Croatia with the purpose of enhancing SME development and promoting investment and innovation. The Agency is an independent institution under the supervision of the Ministry of Entrepreneurship and Crafts.



CROATIAN RESEARCH AND INNOVATION INSTITUTIONS

The Croatian research and innovation system

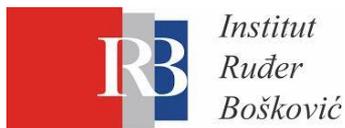
The Croatian research and innovation system has evolved over the last decade into a complex system of various institutions and measures directed to build innovation-driven growth. The basic principles and guidelines of science and higher education policy are determined by the Croatian Parliament. **The Ministry of Science and Education (MSE)** is the main administrative body responsible for planning, funding and monitoring of the entire science and education system while the highest advisory body for the scientific research system is **The National Council of Science, Higher Education and Technological Development** with the aim to harmonize the overall development of the R&D and innovation system. **The Ministry of Economy, Entrepreneurship and Crafts**



complements the national innovation policy related to innovation-based entrepreneurship and business infrastructure. The role of the **Ministry of Regional Development and European Funds** has increased upon the Croatian accession to EU. Scientific activity in Croatia is performed at the universities, public research institutes, research institutes, Croatian Academy of Sciences and Arts and other legal persons duly registered in the Register of Scientific Organisations.

Investment in R&D and employment in Science and Technology

The Croatian science and technology sector employed 38,2 % of the active population (aged 25-64) in 2016 according to the Eurostat report which is close to the EU-28 average (46 %). The public R&D sector, with universities playing a leading role, is the largely dominant sector research manpower (56,5 % of total researchers HEI in 2016). As reported by Eurostat in 2016, the business sector employs a modest 21 % of total researchers and invests 0,44 % of GDP in R&D. On the other hand, the business enterprises sector is leading in R&D performing activities (49,4 %), followed by the higher education sector (31 %). Furthermore, the total investment into R&D was 0,85 % of the GDP in 2016 and has been fluctuating around 1 % in the past 10 years, marking Croatia as one of the most advanced R&D performers in the region, but not at the EU level. However, according to ERAWATCH, Economic Programme of Croatia envisaged increasing the investment in research and development to achieve a share of GERD of 1,4 % of the GDP by 2020 in order to overcome the gap in science funding between Croatia and the EU countries (0,85 % of GDP vs. 2,03 % of GDP in 2016).



*Institut
Ruđer
Bošković*

Ruđer Bošković Institute

The Ruđer Bošković Institute is regarded as Croatia's leading scientific institute in the natural and biomedical sciences as well as marine and environmental research, owing to its size, scientific productivity, international reputation in research, and the quality of its scientific personnel and research facilities. The Institute is the leading and internationally most competitive Croatian institute by virtue of its participation in international research projects.

Croatian Academy of Science and Arts

The Academy promotes and organizes scientific research and encourages the application of the findings of this research, develops artistic and cultural activities, and is concerned with Croatian cultural heritage and its affirmation throughout the world. It publishes the results of scientific research and artistic creation and makes proposals and gives its opinion on the promotion of sciences and arts in the fields which are of special importance to the Republic of Croatia.



Study in Croatia

The portal "Study in Croatia" (www.studyincroatia.hr) is owned and managed by the Croatian Agency for Mobility and EU Programmes. It contains information about higher education in Croatia aimed at

prospective international students. You can find an overview of the Croatian higher education system, practical information about application procedures, student life, visas and accommodation and scholarships. Furthermore, the portal provides information on learning Croatian as a foreign language, as well as general information about Croatia. More information can be found at: <http://www.studyincroatia.hr/>



Important information for incoming researchers: EURAXESS Croatia

The Agency for Mobility and European Union Programmes is coordinator (Bridgehead Organization) of the EURAXESS programme in Croatia as well as a EURAXESS Service Centre. The EURAXESS Service Centre (ESC) assists researchers and their families during their period of mobility, in all matters relating to their professional and daily lives, helping them to reach adequate services for their needs, as well as assists the core contact points in research institutions and informs a wider group of contact points about matters of interest to mobility. For all required information, incoming researchers should contact Croatian EURAXESS Service Centre, or check our website (<https://www.euraxess.hr/>).



**Interview with [Dr Jiangyang You](#) (China)
Research Associate, Laboratory of Magnetic Resonance,
Division of Physical Chemistry, Institute Ruđer Bošković,
Zagreb, Croatia**

How did you decide to come to Croatia?

In 2009, a Croatian research team got in contact with me and after overcoming a series of initial administrative difficulties, I finally came to Rudjer Boskovic Institute (RBI) in 2011 as a postdoc, sponsored by the Croatian Science Foundation (CSF). In the following years I worked under a few more postdoc level contracts at Rudjer Boskovic Institute (RBI), in the division of theoretical physics, until joining the laboratory for magnetic resonances, division of physical chemistry, as a research associate in May 2017 and starting in a whole new research area which I am working on now.

How would you describe everyday life and work in Croatia?

I currently live a usual researcher's life in Zagreb: intensive at work while simple and peaceful otherwise. The work load is not low, but thankfully the working environment is flexible so I can set up the schedule that is most suitable for me. After work, I spend most of my time doing sports, playing badminton as well as doing the physical training necessary for it.

What advice would you give to your fellow researchers who are thinking of coming to Croatia?

I would like to say that Croatia is a good place to start developing something for and on your own. You are coming to a country with a solid high education tradition as basis, and a country seeking all chances to catch up to the highest standard in the European Union right now. From my point of view such a scenario presents many opportunities, but of course challenges, too.

Interesting Reads:

[Nature Index Croatia](#)

[OpenAIRE Croatia](#)

[Croatia become member of CERN \(article\)](#)



Hot topic: Status update of gender equality in research careers in Europe

The 'She Figures' publication provides a range of indicators on gender equality in research and innovation at pan-European level. It aims to give an overview of the gender equality situation, using a wide range of indicators to examine the impact and effectiveness of policies implemented in this area. At the occasion of the [publication of the latest edition](#) in March 2019, we investigate the evolution of the situation of gender equality in Europe and in EU programmes for researcher mobility ERC and MSCA. Large parts of this article are directly sourced from the final 'She Figures 2018' report.

Global overview

The EU is approaching gender balance among doctoral students. Overall, in 2016, women made up 47.9 % of doctoral graduates at the EU level, in two thirds of EU Member States the proportion of women among doctoral graduates ranged between 45 % and 55 %. While the overall number of both women and men doctoral graduates increased between 2007 and 2016, in most of the countries that 'She Figures' covered, the number of women doctoral graduates increased at a faster rate than that for men. The proportion of women among doctoral graduates still varies among the different fields of education; in 2016, women doctoral graduates at EU level were over-represented in education (68 %), but under-represented in the field of information and communication technologies (21 %) and the fields of engineering and manufacturing and construction (29 %).

Differences between women and men can also be observed in their working conditions as researchers. At the EU level, the proportion of women researchers working part-time was higher than that of men; 13 % of women researchers and 8 % of men researchers were working part-time in 2016. Furthermore, 8.1 % of women and 5.2 % of men researchers worked under contract arrangements considered as 'precarious employment'. In terms of equal payment, there is still a considerable gender pay gap in scientific R&D occupations. Across the EU-28, women in R&D earned on average 17 % less than their male colleagues in 2014, and the gender pay gap was found to widen with age. Moreover, the presence of women researchers seems to have an inverse relationship with the R&D expenditure per researcher; most of the countries that spent more per researcher had some of the lowest shares of women researchers.

In the EU-28, women were still under-represented in the writing of scientific papers. Between 2013 and 2017, the ratio of women to men among

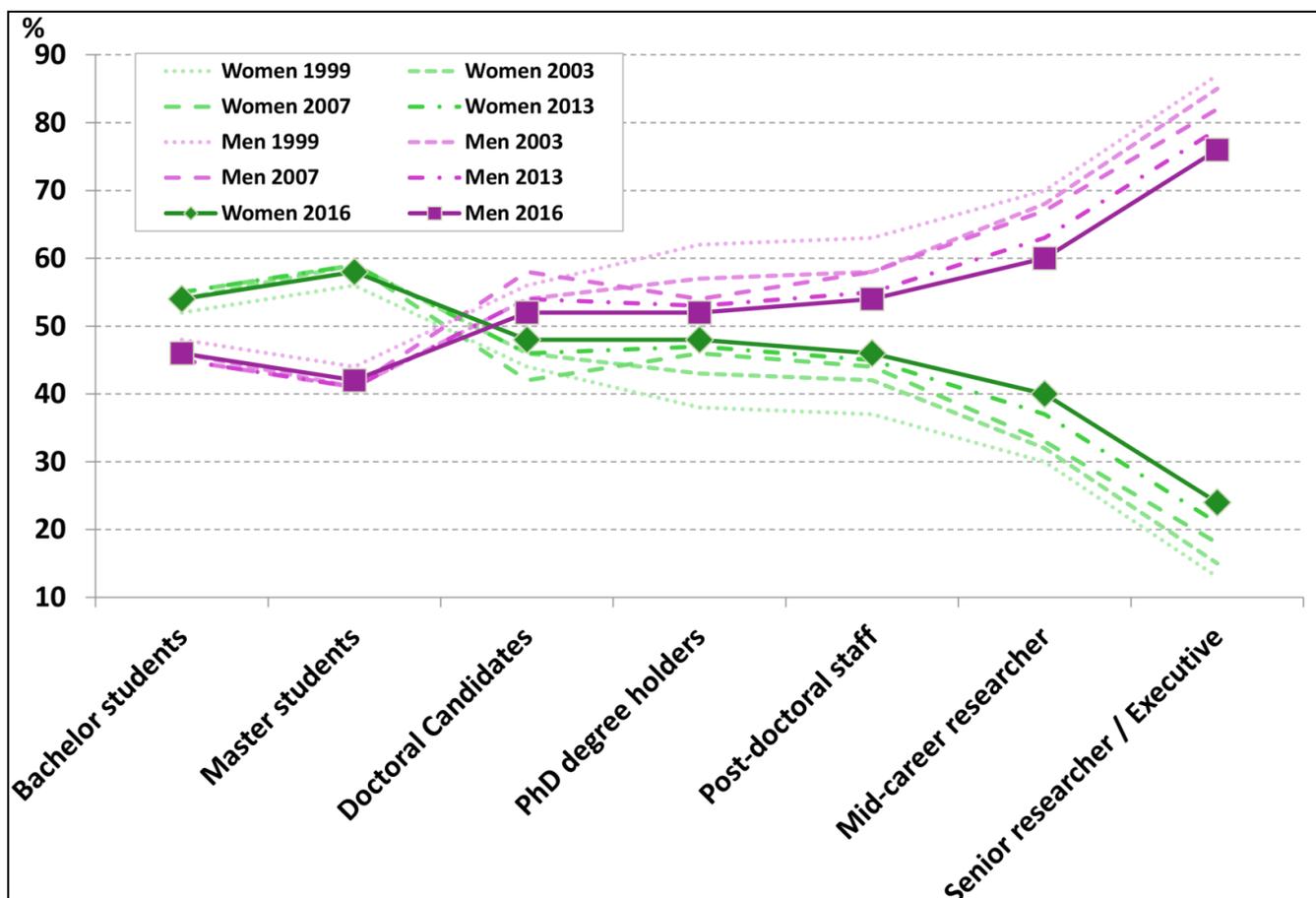
authors of scientific publications in the EU was on average one to two. However, this ratio is slowly improving, and it has been increasing by almost 4 % per year since 2008. The highest women to men ratio of authorship was observed in the fields of medical and agricultural sciences, where a little over 8 women authors corresponded to 10 men authors. Moreover, women are still strongly under-represented among patent inventors; between 2013 and 2017 in the EU, the women to men ratio of patent inventors was on average just over 1 to 3. A strong gender gap in the composition of the inventors' teams was also observed in the EU-28, where the most frequent composition of the teams was all men (47 %), followed by those with just one male inventor (33 %). A final overall observation for EU countries was a slight gender gap in receiving research grants. The funding success rate was higher for men team leaders than women team leaders by 3.0 percentage points.

The 'leaky pipeline' and its evolution over time

Figure 1. Proportion (%) of men and women in a typical academic career, students and academic staff, EU-28, 1999-2016

Source: She Figures 2018 and 2015

The fact that women tend to be less and less represented within researcher population with age (or experience, career level) is often referred to as the 'leaky pipeline'. Indeed, as shown in Figure 1, women are on average over-represented up to the tertiary education level, but start being under-represented at the higher education level: there are less women university graduates (all levels including PhD) than men; and the



tendency worsens after the post-doctoral phase.

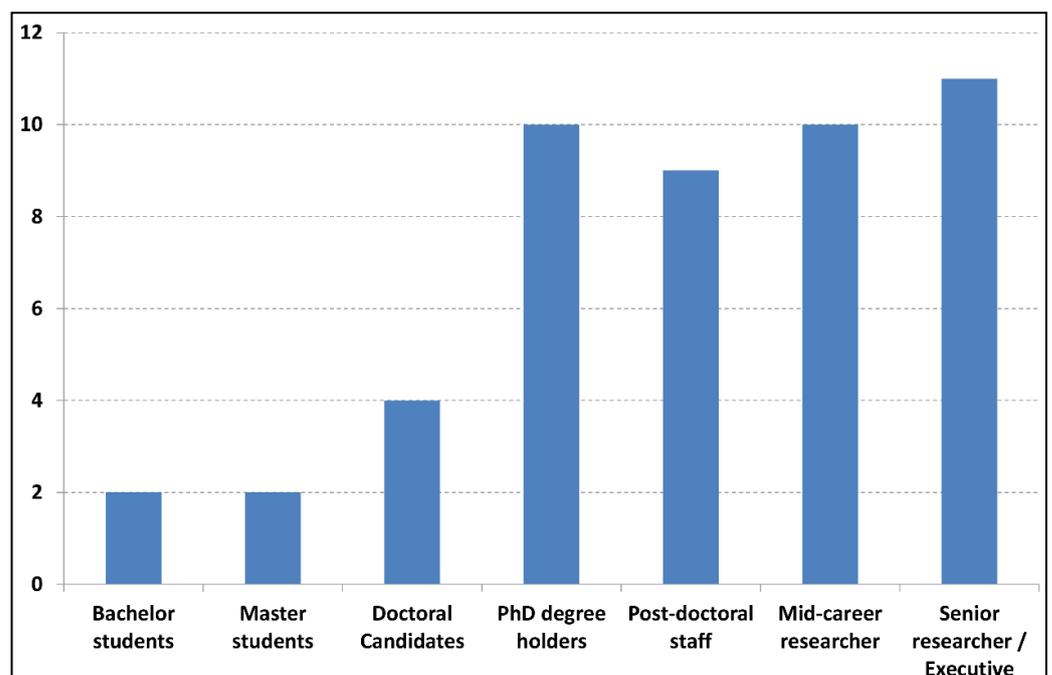
Women in the EU were the majority of students and graduates at Bachelor's and Master's or equivalent levels in 2016. In fact, their share among graduates (58 %) was higher than that among students (54 %), pointing to the better performance of women rather than men in their studies. Conversely, women start to be under-represented as of the Doctoral stage (48 %), and while the same proportion is observed among PhD degree holders, numbers plunge as of the postdoctoral stage (46 %), down to 40 % at mid-career level and as low as 24 % at senior level.

Research identifies institutional and field-related research cultures that favour the advancement of men. Some of the issues stopping women's advancement to top decision-making roles include women's lower success rates in securing prestigious grants and the preponderance of part-time and short-term contract research positions among women's careers. In addition, implicit gender bias in performance assessment, gender stereotypes, gendered perceptions of leadership and leadership styles, the 'glass ceiling', and the 'gender pay gap' are among the factors that can influence the recruitment and promotion of women to senior grade positions, evaluation committees and university oversight bodies and scientific committees responsible for research funding.

The proportion of women among senior staff at the national level ranges from 13 % to 54.3 %. The proportion is 40 % or higher in just 5 countries. The largest proportions of women were observed in Romania (54.3 %), Bosnia and Herzegovina (45.1 %) and Latvia (41.4 %) while the smallest proportions were in Cyprus (13 %), Israel (14.3 %) and Czechia (14.6 %). The share of women among all academic staff, irrespective of

Figure 2. Percentage points gained in closing the gender gap at all career levels in EU-28, between 1999 and 2016

Source: She Figures 2018 and 2015



career level, in the EU, was 41.3 %, while at national level it ranged from 34.4 % to 57.4 %. The largest proportions of women were observed in

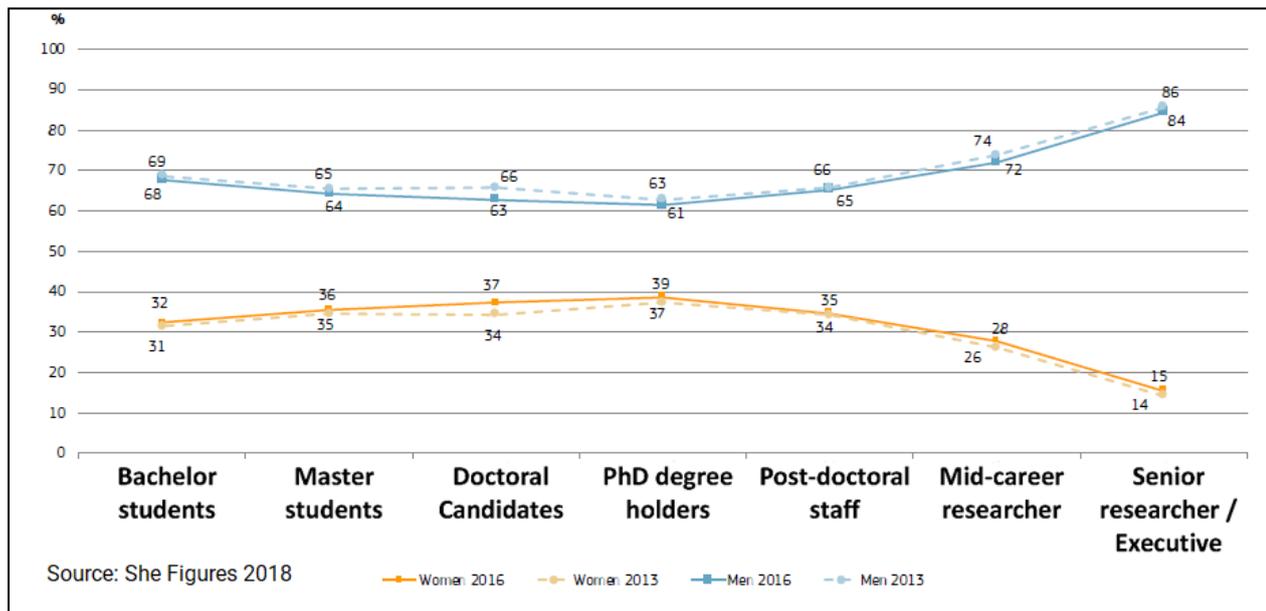
Lithuania (57.4 %), Latvia (55.8 %) and Romania (54.6 %). while the smallest ones were found in Czechia (34.4 %), Greece (35.1 %) and France (36.5 %).

Still, there is a notable positive evolution of the gender gap in research careers, as displayed in Figure 2. While the number of women university students in the EU-28 (pre-doctoral) has stagnated or only slightly evolved between 1999 and 2016 (with a peak in 2003), all career levels from PhD degree holders to senior level have seen an evolution of 10 points on average over the same period.

This evolution represents an annual progression of 0.6 percentage points at the PhD degree holders' level, 0.5 at the post-doctoral level, 0.6 at the mid-career level and 0.65 at the senior level; which, assuming similar rates in years to come would only allow to totally remove the remaining gender gap in:

- mid-2019 at the PhD degree holder level (2 percentage points progression needed to reach 50%);
- 2024 at the postdoctoral level (4 points needed);
- mid-2032 at the mid-career level (10 points needed);
- 2056 at the senior level (26 points needed).

Figure 3. Proportion (%) of men and women in a typical academic career in STEM, EU-28, 2013-2016



Very slow improvement in STEM fields

The share of women is considerably smaller in natural sciences, technology, engineering and mathematics (STEM) than over all fields of research across the career path. This affects all tertiary education levels and all the three higher career grades. More specifically, as shown in Figure 3, in the EU in 2016, women were 32 % of students and 36 % of

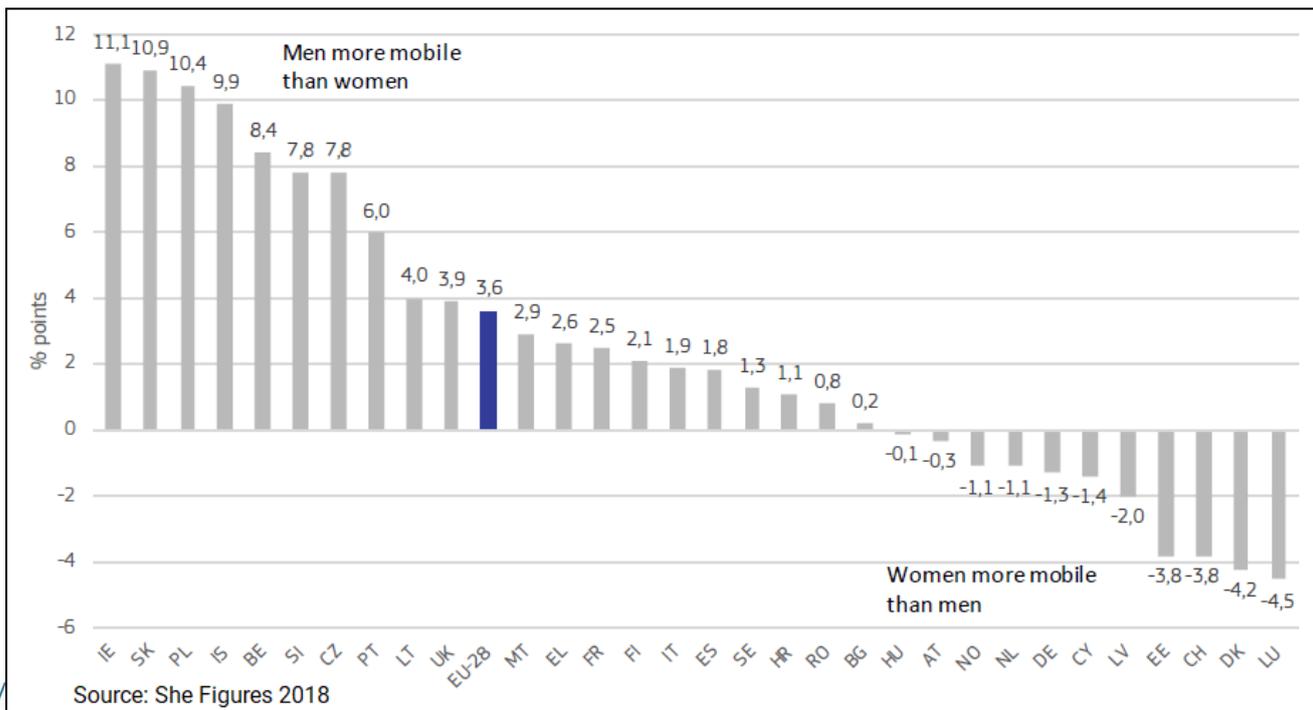
graduates in STEM at the university graduates' level. These proportions are 23 percentage points lower than the respective ones over all fields of education. At doctorate level, women were 37 % of students and 39 % of graduates in STEM, eleven and nine percentage points respectively below their corresponding shares over all fields.

The same picture of a wider gap between women and men emerges among academic staff, where women were 35 % of postdoctoral staff, 28 % of mid-career researchers and only 15 % at senior level. The situation has nonetheless improved slightly since 2013, when the respective shares were 34 %, 26 % and 14 %.

Gender gap in international mobility of researchers

Figure 4 explores the sex differences in the mobility of researchers at advanced stages in their careers (from post-doctoral to senior career levels). It presents the difference between the proportions of women and men researchers who reported that they have worked for at least three months in the last decade in a country other than the one where they attained their highest educational degree. A positive result indicates that men's rate of mobility is higher, whilst a negative result shows that women's rate is higher. The difference between the mobility of women researchers and men researchers in the EU in 2016 was 3.6 percentage points in favour of men (25.1 % mobility for women and 28.7 % for men) It is worth noting that this difference has decreased since 2012 when it was 9 percentage points. The largest differences in mobility between women and men researchers in favour of men for 2016 were found in Ireland with 11.1 percentage points, Slovakia with 10.9 percentage points and Poland with 10.4 percentage points.

Figure 4. Sex differences in the international mobility of researchers, 2016





Gender pay gap in research careers

At the EU level, 13.0 % of women researchers and 8.0 % of men researchers in the higher education sector were working part-time in 2016. In most of the countries considered, the proportion of women researchers working part-time was higher than that of men. Women researchers in the higher education sector were also more likely than men to be employed under precarious working contracts with the respective shares in the EU being 8.1 % and 5.2 %. This pattern was found in two thirds of the countries examined. This partly contributed to the fact that women employed in scientific R&D activities earned on average 17 % less than their male colleagues in 2014, but overall the gender pay gap widens with age.

Table 1. Gender pay gap in % in the EU-28 and Associated Countries in 2014. Left panel: economic activity 'Scientific R&D', per age category; right panel: total economy, per age category. A positive value points to women being paid less than men, a negative one the reverse.

Country	Scientific research and development (NACE rev.2, division 72)					Total economy			
	<35	35-44	45-54	55+	Total	<35	35-44	45-54	55+
EU-28	9,2	15,0	19,8	21,7	17,0	9,7	19,1	20,9	21,1
BE	8,0	9,4	22,9	33,7	16,3	1,5	7,0	9,5	19,6
BG	3,7	-12,2	-1,8	0,7	-1,4	13,6	19,9	13,8	2,2
CZ	18,3	40,7	24,1	26,6	25,4	17,9	30,1	23,9	16,4
DK	10,9	18,9	20,3	21,4	18,3	11,8	18,6	19,2	15,4
DE	9,3	18,8	31,5	30,2	19,4	13,2	25,8	28,5	24,8
EE	13,7	24,4	31,3	34,3	22,4	26,4	31,0	27,4	24,8
IE	7,0	40,5	c	c	30,5	4,5	15,6	21,8	26,0
EL	8,0	36,1	22,8	c	23,1	3,6	10,1	17,2	14,9
ES	9,6	14,8	17,3	10,0	16,6	7,5	15,0	20,1	22,6
FR	11,4	9,3	16,0	22,3	17,1	7,7	16,8	19,1	25,3
HR	1,8	31,8	25,3	13,5	18,1	3,0	16,3	9,7	9,1
IT	1,5	4,5	-0,5	24,9	6,4	5,2	7,8	7,4	9,2
CY	c	c	c	c	18,9	0,4	18,5	27,4	30,2
LV	16,9	5,6	2,8	32,2	16,5	17,6	17,2	15,0	16,1
LT	-27,7	-15,4	31,7	42,6	5,8	13,6	15,9	11,8	10,5
LU	c	c	c	c	-3,8	-4,0	6,1	11,6	13,0
HU	21,6	29,5	25,3	30,9	25,0	12,4	20,6	13,3	11,5
MT	:	:	:	:	:	6,4	17,9	11,1	5,6
NL	17,1	18,1	29,5	30,5	25,0	2,5	19,4	24,3	22,6
AT	11,9	16,7	26,0	14,0	16,5	15,2	25,1	27,5	35,1
PL	13,8	13,0	23,5	16,4	16,6	9,2	11,9	3,5	7,0
PT	15,2	10,1	29,8	c	14,6	6,1	16,1	18,8	29,9
RO	-18,1	-4,0	-6,7	-4,6	-6,7	1,4	7,2	3,3	2,8
SI	5,0	-0,5	6,1	-2,5	3,5	5,3	10,5	7,2	-6,6
SK	11,0	25,0	23,4	20,3	20,6	16,0	25,6	20,0	16,1
FI	14,6	18,1	18,7	20,3	17,3	13,3	21,4	21,7	24,6
SE	12,8	16,2	16,3	30,2	17,1	10,0	17,1	16,5	15,3
UK	1,0	24,6	25,1	21,6	18,3	11,4	25,6	29,5	26,7
IS	:	:	:	:	:	8,3	22,6	24,8	19,6
NO	8,1	14,3	16,8	24,5	15,9	9,2	15,8	19,0	19,5
CH	9,7	16,5	25,4	22,9	20,9	9,3	19,5	22,9	24,7
ME	c	c	c	c	22,5	1,9	7,2	11,5	13,2
MK	-14,2	-30,8	-6,1	c	-21,8	5,6	14,4	7,0	8,2
RS	1,3	-4,3	-9,0	0,5	-0,8	7,4	9,7	9,8	0,6
TR	31,6	19,7	47,4	c	35,7	-6,1	-2,2	13,2	19,5

Source: She Figures 2018

The gender pay gap for scientific R&D activities and the total economy in 2014, broken down in four age categories (younger than 35; 35 to 44 years

Gender in Horizon 2020:

Gender equality is a cross-cutting issue in Horizon 2020 and shall be implemented across all areas of Horizon 2020, including the MSCA and ERC. Key objectives include:

- Gender balance in decision-making: The aim is to reach the Commission's target of 40 % of the under-represented sex in each group and panel. For Horizon 2020 Advisory Groups, the target was raised to 50 %.
- Gender balance in research teams at all levels: Applicants for funding are encouraged to promote equal opportunities and to ensure a balanced participation of women and men at all levels. Gender balance in teams will also be taken into account when ranking proposals with the same evaluation scores.
- Gender dimension in research and innovation content: Gender is explicitly integrated into several topics across the Horizon 2020 Work Programme, but all H2020 applications should take the gender dimension into account.

Source: [European Commission](http://ec.europa.eu)

old; 45 to 54 years old; 55 years old and older), is presented in Table 1. The relative gender pay gap in total economy follows the same pattern with age as that in R&D.

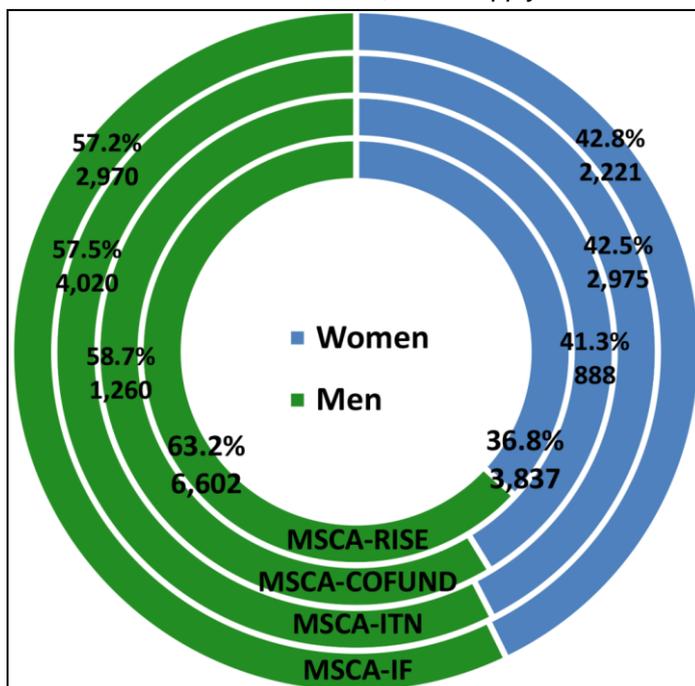
On average at the EU level, the gender pay gap is even actually almost similar to that of the total economy, at about 10 % in early careers, 15 % to 20 % mid-career, to 21 % at senior level. However, considerable discrepancy is shown between countries; with for example a considerable gender pay gap in all age categories in Czechia (18 %, 41 %, 24 % and 27 % respectively) or a reversed situation in Romania, women there being paid more than men in R&D with a -18 %, -4 %, -7 % and -5 % gender gap in favour of women, while such a tendency is not visible in Romania's total economy. Another interesting example is that of Lithuania, where young to mid-career women are sensibly paid more than their counterparts (-28 % and -15 % gap), while at later career stages they are paid much less (32 % and 43 %). This two-stage tendency is not seen in other countries, and also does not show correlation to the gender pay gap evolution in Lithuania's total economy, potentially pointing at a phenomenon characteristic of careers in R&D.

Gender equality policies and gender distribution in Marie Skłodowska-Curie Actions

Since their creation, the MSCA have placed a strong emphasis on promoting gender and equal opportunities for their fellows, and within their projects. Indeed, the MSCA require transparent recruitment and high quality employment and working conditions for researchers, in line with the principles of the [European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers](#). In addition, MSCA grants permit part-time working and parental leave. Post-doctoral researchers who wish to resume their career after a break, for example to raise children, can apply to a dedicated panel of the MSCA Individual Fellowships.

In practice, MSCA features four actions: RISE, which funds exchanges between several research institutions by allowing mobility of students, staff, researchers and professors alike; COFUND, which supports doctoral programmes for PhD candidates, as well as fellowship programmes for experienced researchers; ITN, which funds Doctoral programmes; and IF, which funds individual projects of experienced researchers.

Figure 5. Distribution of men and women across all Actions within MSCA, 2014-2018



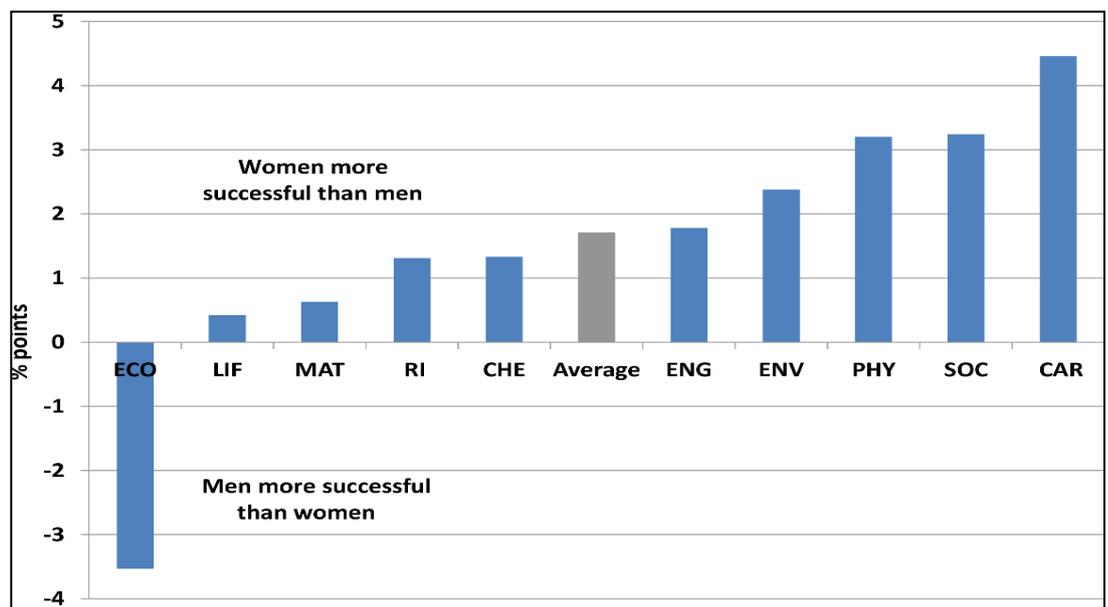
Over the 5 years of the running Horizon 2020 calls (2014-2018), MSCA supported a total of approximately 25,000 researchers, out of which 40 % were women. A breakdown of the ration of men and women per Action is displayed in Figure 5. Although no significant difference can be found in the gender distribution of the COFUND, ITN and IF Actions (respectively with a gender gap of 8.7, 7.5 and 7.2 percentage points), it is shown that the RISE Action displays a larger gender gap with 13.2 percentage points. This can be attributed to the fact that RISE projects involve senior as well as early stage and experienced researchers, whereas other actions only involve early stage- and experienced researchers (defined as pre- and post-doctoral researchers). All of these values are notably higher than the gender gap in EU-28 as shown in Figure 1, since we would only expect between 2014 and 2018 a 3 point gap at the doctoral stage (ITN), 4.5 points at post-doctoral stage (COFUND and IF), and an aggregate of 9.5 points for a mix of senior, mid-career, post-doctoral and doctoral stages (RISE). The gender gap across all MSCA Actions therefore appear to be roughly four to five points above that expected from statistics at the EU level, perhaps pointing to further efforts to be made.

The only programme allowing individual researchers to directly apply for funding (i.e. not via their institution) is MSCA-IF. For this programme we can extract success rates of men and women and analyse their differences, as shown in Figure 6. Although the total number of female applicants over the 2014-2018 period is much lower than the number of male applicants (roughly 17,550 versus 25,750), we can see that their average success rate is higher, resulting in female researchers being better represented after evaluation stage than at proposal submission stage (2,770 versus 3,620).

Figure 6 shows that on average, women are 1.7 percentage points more successful than men at securing MSCA-IF funding. There are strong discrepancies between panels. The career restart panel features the most female-favouring score, with a 4.5 percentage points advantage to women over men, followed by Social Sciences and Physics with 3.2 points; while

Figure 6. Sex differences in the success rate to MSCA-IF calls, per panel, 2014-2018.

Panels from left to right:
 Economic Sciences (ECO),
 Life Sciences (LIF),
 Mathematics (MAT),
 Reintegration (RI),
 Information Science and Engineering (ENG),
 Chemistry (CHE),
 Environmental and Geosciences (ENV),
 Physics (PHY),
 Social Sciences and Humanities (SOC),
 Career Restart (CAR).



results in the Economics panel seem skewed towards men, with 3.5 points disadvantage.

Gender equality policies and gender distribution in European Research Council grants

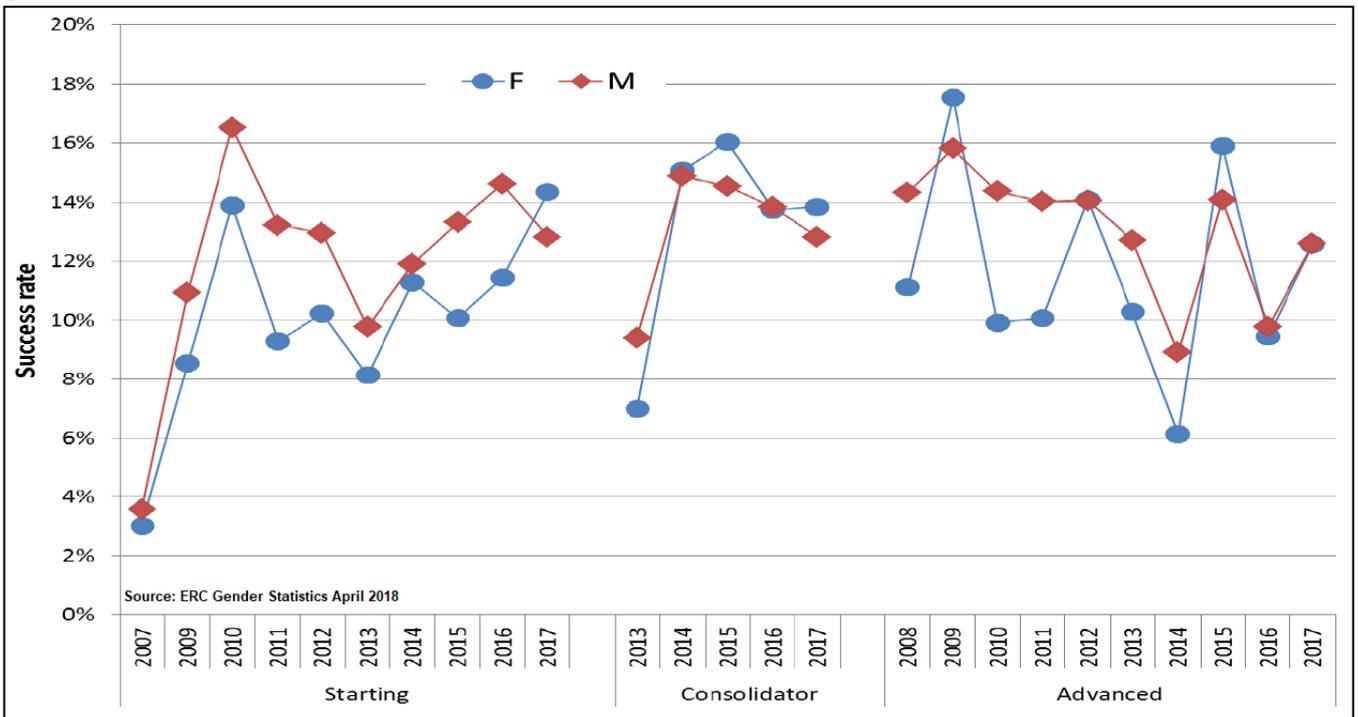
The ERC has seven Working Groups dedicated to the advancement of specific topics, such as open access or international participation. One of them is focused on gender balance. Since women and men are equally able to perform excellent frontier research, each process within the ERC - from creating awareness about the ERC to signing of grant agreements - is designed to give equal opportunities to men and women. The purpose of the [gender balance working group](#), launched in 2008, is to monitor these aspects at all stages.

The Working Group on Gender Balance drafted the [ERC Gender Equality Plan 2007-2013](#) and the [ERC Gender Equality Plan 2014-2020](#), endorsed by the ERC Scientific Council, which main objectives are:

The Working Group on Gender Balance drafted the [ERC Gender Equality Plan 2007-2013](#) and the [ERC Gender Equality Plan 2014-2020](#), endorsed by the ERC Scientific Council, which main objectives are:

- **raising awareness about the ERC gender policy** among potential applicants;
- working towards **improving gender balance** among ERC candidates and within ERC-funded research teams;
- **identifying and removing** any potential **gender bias** in the ERC evaluation procedures;
- **embedding gender awareness** within all levels of the ERC processes - while keeping focus on excellence;
- **striving for gender balance** among the ERC peer reviewers and other relevant ERC bodies.

Figure 7. Men and Women success rates to the ERC's Stg, Cog and AdG calls, 2007-2017



To achieve these objectives, the working group has been monitoring the evolution of gender balance of ERC funded projects since its inception, the latest available statistics dating from [April 2018](#).

The ERC proposes three main grant categories: the Starting Grants (StG, 2-7 years post PhD obtention), the Consolidator Grants (CoG, 7-14 years – since 2013 only--), and the Advanced Grants (AdG, 10+ year and excellent track record); and features three main evaluation panels: Life Sciences (LS), Physical Sciences and Engineering (PE), and Social Sciences and Humanities (SH). The breakdown of men's and women's success rate per type of call and year is displayed in Figure 7. The tendency shown is positive, as while success rates of women were significantly inferior to those of men prior to Horizon 2020 (i.e. until 2013), statistics show that equilibrium is almost reached on average for all the calls within Horizon 2020 (2014-2017). Until 2013 the total success rate was 11 % for men and only 8 % for women (Stg: 10 %- 8%; CoG: 9 %-7 %; AdG: 14 %-12 %), but for the whole period 2014-2017 success rates are equal with 13 % for both men and women (Stg: 13 %-12 %; CoG: 14 %-15 %; AdG: 11 %-11 %).

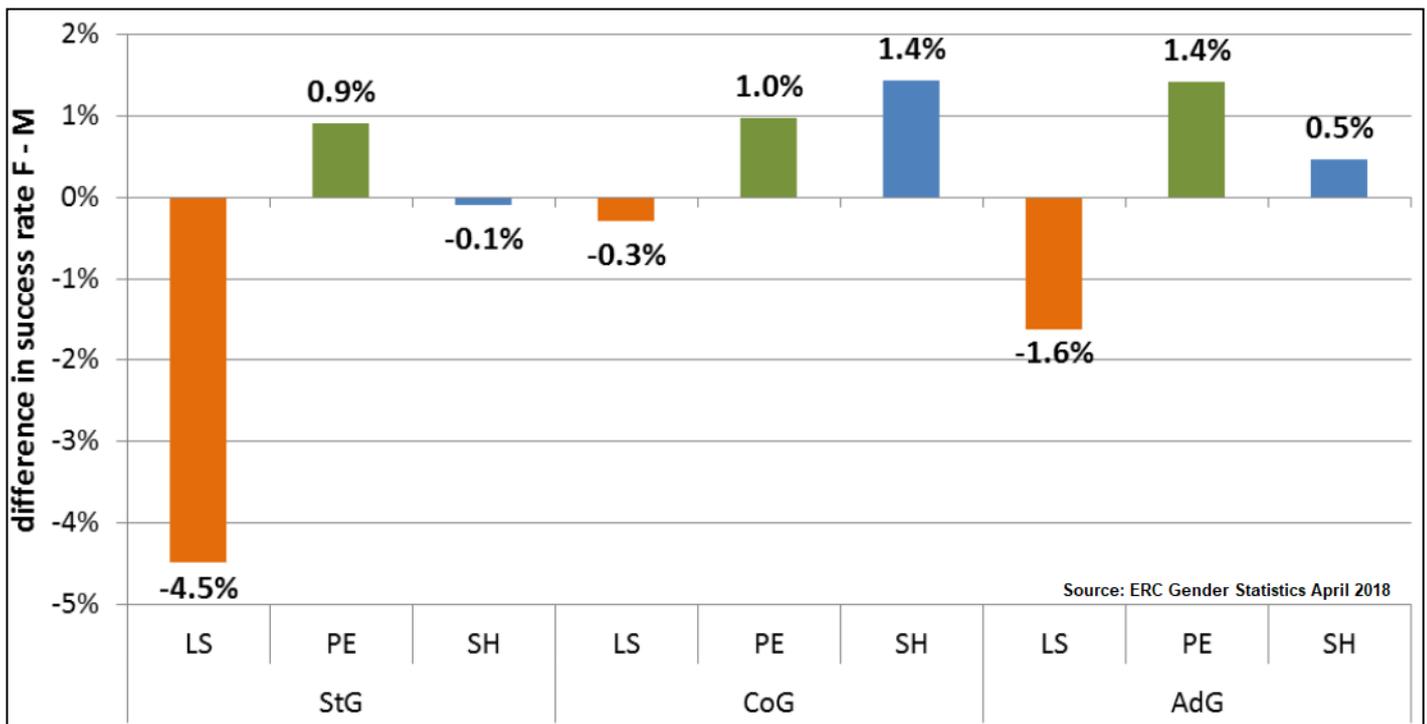
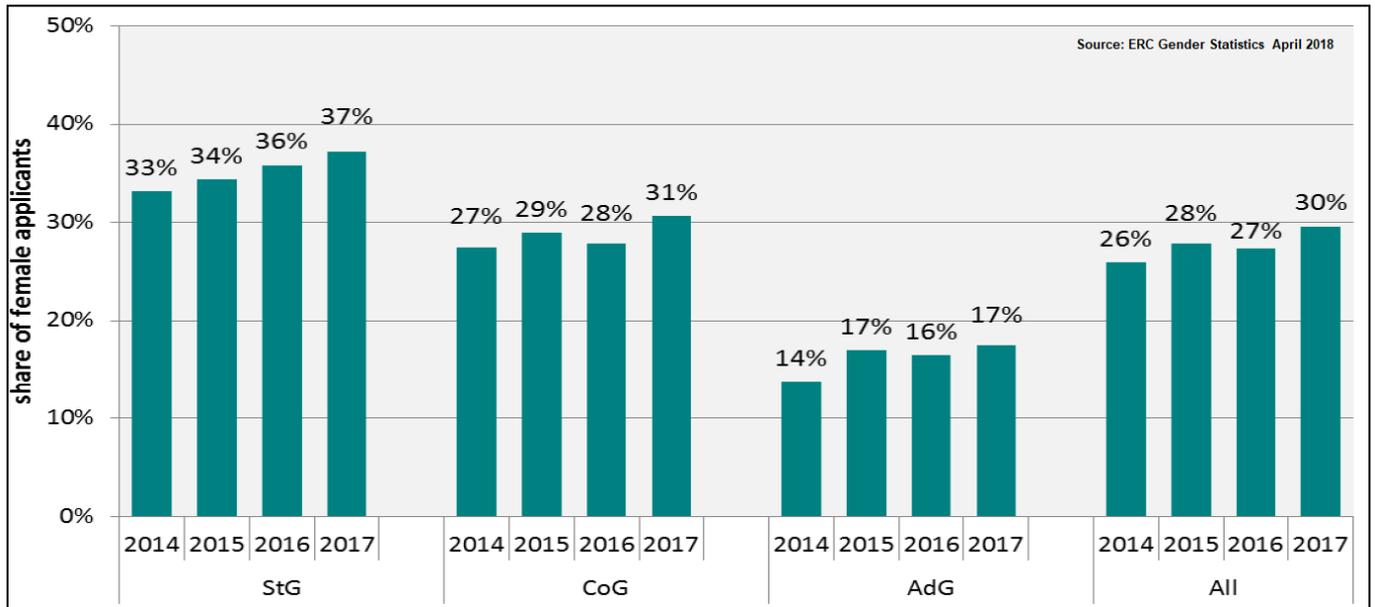


Figure 8. Sex difference in success rates for ERC calls, per panel, 20014-1017

However, this tendency does not equally apply to all domains of science. Figure 8 shows the differential success rate by panel and call for the Horizon 2020 calls. The Life Sciences panel consistently features lower success rates for women, with a particularly strong imbalance for the StG call (early career researchers) at -4.5 percentage points. On the other hand, the Physical Sciences and Engineering panel shows success rates slightly in favour of women at all career stages; while the Social Sciences and Humanities panel features more balanced statistics.

When it comes to the total number applicants (i.e. irrespective of their success or failure in securing the grant), a positive tendency is also observed as shown in Figure 9. The total share of female applicants steadily grows since 2014, reaching 30 % in 2017 and as high as 37 % for StG only in the same year. The lowest shares of women participation are reached in the AdG (senior level), in agreement with the ‘leaky pipeline’ effect and the statistics at EU level displayed in Figure 1 and 2 (24 % of women at senior level overall, only 15 % in STEM fields in 2016).

Figure 9. Share of female applicants to ERC call, per grant type, 2014-2017





Meet the Researcher: Korean MSCA ITN grantees!

- *EURAXESS Korea: Can you introduce your research interests to our readers?*

Heyrhyoung: My research interests lie in viruses, especially in the interplay between a virus and its host at the cellular level. Viruses hijack cellular host factors to replicate their genome. I have been working with enteroviruses, the group of viruses including a variety of diseases such as poliomyelitis, hand-foot-and-mouth disease, meningitis, myocarditis, respiratory illness, common cold, and asthma. Despite the huge impact that those viruses have on human, there are currently no antiviral drugs against any enteroviruses. Thus, my research project aims to identify a host factor which is required by (all) enteroviruses, as a potential target of a broad-spectrum antiviral drug.

Hyun Il: My name is Hyunil Oh and I am working on establishing a chemo-enzymatic synthesis of glycopeptide as a biomarker standard for colorectal cancer. Carbohydrates (glycan) are known to be an important marker on the cell surface determining multiple biological activities which can also tell us about the health status of a patient including cancer. In order to do so, well-defined standard has to be synthesized to evaluate and validate the analysis of biological samples (e.g. blood samples from patients). I have been working on establishing a platform to synthesize such standard molecules using enzymatic reaction and chemical synthesis. We, as members of GlyCoCan project, also have released a Youtube video (Glycosylation in colorectal cancer (GlyCoCan)) for general public to promote people's interests in what we are fighting against.

- *EURAXESS Korea: You are now under an MSCA ITN mobility grant in Europe. Can you tell us a bit about your professional choices, and what particular circumstances lead to your work in Europe under this grant?*

Heyrhyoung: I was quite determined to study virus-host interaction. So it was clear to me that what I was looking for. But, at the same time, my options were greatly limited because there were very few openings that suit my interest. I tried with all my efforts to find proper opportunity and finally *ANTIVIRALS-ETN* caught my eyesight at the right moment.

Hyun Il: I was working in glycobiology analysis field during my master's and I often thought about learning how to synthesize my own molecules to be able to have the techniques throughout the whole procedure from synthesis to analysis. And I had personal reasons to have work experiences in Europe. So, I looked for some position via EURAXESS



Heyrhyoung Lyoo started her study in Biology at Kyung Hee University. Her master thesis described the role of host factors in the establishment of Japanese encephalitis virus persistent infection. From 2013 to 2015, she worked as a researcher in the new emerging diseases laboratory at Animal and plant quarantine agency and contributed to the development of molecular diagnostic tools of foreign viral infections.

In 2015, Heyrhyoung moved to the Netherlands and started working as a Ph.D. student in the virology division at Utrecht University. As a Marie-Curie fellow of the European Training Network *ANTIVIRALS*, she is working on the identification of important host factor(s) for enteroviruses, which can be further developed as a target of a broad-spectrum antiviral drug.



(<https://euraxess.ec.europa.eu/>) and Nature Jobs, and I was able to find the current position which actually deals with synthesis and analysis.

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

Heyrhyoung: I had subscribed to several websites such as Nature Jobs and findaphd.com, and there I became acquainted with MSCA funded PhD program. When I found *ANTIVIRALS*, I was really attracted by the concept that it included both academia and industry. I would say the application process was quite typical. After the initial screening was done based on my CV and motivation letter, I went through several Skype interviews and was invited to the onsite interview that followed. I cannot recall any big hurdles. But some arrangements should be taken into account for interviews because I was working at a company at that time. Time difference between Europe and Korea made me challenging to set the meeting time and date with the interviewer.

Hyun Il: It was a simple procedure. I applied with CV and cover letter, and then I had an interview with my current supervisor including short explanation of my previous research during my master's. The only hurdle for the procedure was that the interview was on Skype due to the distance which was unfamiliar for me at the moment. So I read some posts and articles about online interview to familiarize myself.

- *EURAXESS Korea*: While your grant is not yet finished, what would you say was its impact on your career so far?

Heyrhyoung: It has been truly an eye-opening experience for me. ETN offers a whole package. I have learned not only the textbook knowledge and soft skill courses, but also many other aspects of doing research such as networking, understanding intellectual property and how to sell your science knowledge. I also have had some useful chances to explore other career options, other than staying in academia, through secondments to several companies.

Hyun Il: The Marie Curie ITN grant has been providing many opportunities for me to grow not only as an independent researcher but also as a human being. There have been numbers of seminars/workshops for the early stage researchers within the consortium to promote understanding the research theme and techniques. Aside from scientific events, several activities were also provided to assist project members on our career path. But at the end, I believe the most important impact from the grant is the network. I am not the most outgoing person in the world and yet I made a dozen of friends / colleagues working and studying on the same field which is a valuable asset for future studies.

Hyun Il Oh, graduated with an MSc in Industrial Pharmaceutical Science at the Chung-Ang University, South Korea. His GlyCoCan PhD project is supervised by Dr. Daniel Varón Silva at the Max Planck Institute of Colloids and Interfaces (MPIKG) in Germany. The main purpose of his research is to establish a chemo-enzymatic platform for the synthesis of highly defined glycopeptide standards.

- EURAXESS Korea: How would you say research environment compare between the different countries you visited and Korea?

Heyrhyoung: The big difference, I think, comes from how strong the hierarchy status is. Hierarchy might be required in every organization. I would not say it does not exist in the Netherlands. But I am certain that it is much less rigid. Here no matter what your job title or position is, you are allowed to communicate horizontally, to speak out your opinion and to take part in discussions freely. Importance is put on to the work-life balance as well. According to the latest OECD Better life index, the Dutch scored 9.3 out of 10, whereas the Korean scored 4.7. In academia, the work-life balance is also quite high. People here work efficiently in a given amount of time. Sharing time with their family in the evening as well as in the weekend is valued to them.

Hyun II: It is difficult to say because the difference I have observed can come from scientific subject (biology lab VS chemistry lab) or format of the institute (academic VS industry). Having said that, what I can say is that the communications and collaborations between research groups within Europe is very active and huge. And by doing so, many institutes are able to promote various projects which make possible to hire talented students from many countries even outside Europe.

- EURAXESS Korea: What are the challenges of doing research in Europe as a Korean national?

Heyrhyoung: There are a few obvious challenges such as language and cultural barriers. Even Korean people study and learn English for a long time during their school years, using English on a daily basis requires extra efforts. On top of that, if you want to be integrated into the country, you would like to learn their language (Dutch in my case) as well. That means that you would have to invest much of your time and energy in it.

Hyun II: I cannot really think of any challenges as “Korean national” here in research.

- EURAXESS Korea: What did/does this mobility experience to Europe bring to you, in terms of skill or career development?

Heyrhyoung: Here, you are the one who is sitting in the driving seat. You can decide which skills you should improve and learn. No mandatory coursework is required to follow, but you may attend lectures and seminars on your own needs and interests. It is absolutely important that you should choose and make your way autonomously. That is how and what I have learned and will have my skill sets accomplished as well.



Hyun II: I found that it is easier to find a scientific associate to ask for collaboration to learn new techniques and discuss on current problems here in Europe. And there are more chances to communicate with experienced researchers through many conferences which I believe to provide more chances for future research as well.

- EURAXESS Korea: While being based in Europe, are you keeping ties with your former workplaces/labs/colleagues in Korea? If yes, how and to what end/objective?

Heyhryoung: Yes, I do. I maintain ties with my colleagues in the former workplace or lab. I exchange communications on the internet from time to time. If circumstances allow, I have tried to meet them during my holidays in Korea.

Hyun II: There hasn't been really a scientific communication with my former group and the members yet. But I am looking forward to collaborating with them in the future to promote a new project.

- EURAXESS Korea: From your perspective, how can/should researchers mobility flows between Europe and Korea (both ways) be improved? Also, what would be the barriers for research cooperation?

Heyhryoung: In my point of view, the lack of information about the opportunities is one of the biggest barriers. I hope that more young Korean students (ESR or ER level) get the opportunity to do their PhD as a part of ITN. If done so, they may motivate more people to do research in Europe. Meanwhile, these people could help their host institutes to get familiar with the research environment and quality in Korea. I believe it will help understand each other better and facilitate more research cooperation in the years to come.

Hyun II: I think the key is communication, either conference level or research meeting level. I think Max Planck POSTECH or Max Planck-RIKEN joint research centre are good examples of how to improve the mobility between Korea and Europe. For example, my institute holds biannual conference with RIKEN to promote the scientific cooperation. And for this reason, the physical distance can be the barrier for a better communication which, of course, can be overcome by online communications. But still, I believe it is not the same as face-to-face contact. Therefore, holding international-scale conferences will promote the active discussions and mutual relationships between Korean and European scientific societies.



- *EURAXESS Korea: A final, more personal question: how do you envisage your career and where?*

Heyhryoung: Since I am in my fourth year of PhD, I have been thinking a lot about this as well. Exploring career options in the related sectors through the years, I have figured that I may prefer to stay in academia or in public health sector. In either case, I will first try to apply for a grant for my postdoc research period preferably here in Europe.

Hyun Il: I want to leave it open for now. I have always thought about myself being in academic community before life in Europe. But after the experience in several formats of research (industry model, academic, private research institute and so on), I found myself thinking of doing many more things other than staying in academia. Each of the institute had its own values and interests, and it was really interesting to see how different they are running. But the bottom line is, staying in research field has given me a lot of sparkling moments and I would like to enjoy them longer.

EURAXESS Korea Activities Update

We started the 2019 with full swing! On February 21st the EURAXESS Korea team participated in the EU Member States Science, Technology and Innovation Counsellors' Meeting organised by the EU Delegation to Korea which was followed by the working seminar with four Korean government agencies: National Research Foundation of Korea, Institute of Information and Communications Technology Planning & Evaluation, Korea Institute for Advanced Technology, Korea Technology and Information Promotion Agency for SMEs.

We also visited School for Conflict Analysis and Resolution at George Mason University Korea where we introduced EURAXESS services and presented funding opportunities offered under Horizon 2020 scheme for Korea-based researchers.



On March 28 the EURAXESS team hosted second edition of the European Alumni Research Night. The European Alumni Research Night events, organised since 2018 aimed to bring together researchers of any nationality, currently based in Korea and interested in Europe, to discuss research, careers and relation to Europe. This event gathered together scientists that have conducted their research in Europe in various fields including Environmental Engineering, Pharmacology, Cell and Microbial Engineering and Media and Literature. Speakers shared their experience, best practices and challenges and promoted Europe as a research destination. EURAXESS Korea representatives and EU Delegation officer also introduced funding opportunities for researchers interested in

pursuing their career in Europe. The event gathered 30 researchers, scientist students and industry representatives.

Book your calendars: we are coming back on 25 & 26 June for more events!