On 29 September 2020, the German Presidency of the Council of the European Union organized the MSCA conference “MSCA 2020 – Achieving more together”. More than 550 participants from over 50 countries discussed the synergies between the MSCA and the European Universities Initiative as well as the topic of supervision in the MSCA and beyond. How to communicate science well was demonstrated impressively by the Fellows of the MSCA Falling Walls Lab, which was a further highlight of the conference. We would like to thank the 20 Fellows who presented their research, the members of the jury, the panelists for the fruitful discussion, the chairs, experts and rapporteurs of the four workshops, and all the participants who made this conference a successful event. Last but not least, we would like to thank the European Commission for generously funding the conference and for being a supportive partner before, during and after the conference. Together, we achieved more. We hope that all of you enjoyed the day as much as we did, and we wish you an enjoyable read.
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Anja Karliczek, Federal Minister of Education and Research, and Themis Christophidou, Director-General - DG EAC, opened the conference. Both emphasized the importance of strengthening the synergies between the Marie Skłodowska-Curie actions and the European University alliances. Over the last years, the MSCA have boosted scientific excellence, job growth and economic development by enabling researchers to gain knowledge, transferable skills and international competencies, thus helping to raise Europe’s competitiveness and its ability to address current and future challenges. Cooperating with the European Universities Initiative will further fortify this support and contribute to connecting the European Research Area and the European Education Area more closely. The European Research Area and the European Education Area must be closer connected, and with the MSCA and the European Universities we have the tools to achieve that.

Moreover, both stressed that “Achieving more together”, the motto of the conference, does not only refer to the synergies between the MSCA and the European Universities, but also to the second topic of the conference, supervision. Many early-career researchers as well as supervisors and political representatives came together virtually for this conference to discuss the necessary improvements and how to deal with the increased demands on supervisors and fellows. An open exchange between all relevant parties is necessary to effect these changes and to make the conference motto a reality.

Minister Karliczek and Director-General Christophidou also highlighted the value of science communication. In today’s world, science communication is becoming increasingly important. Research organizations and universities can only drive innovation if they actively engage with actors from the socio economic and civil society. Furthermore, especially in times when facts are often doubted, it is the task of science to make itself heard. That is why science communication is such an important topic – and it is now up to science to speak up and communicate science in an understandable manner. The MSCA Falling Walls Lab is a great example of how to communicate science well.
According to the motto Achieving more together, the panel ‘Synergies between the MSCA and the European Universities Initiative’ brought together representatives from the political level as well as representatives from highly successful European universities in the MSCA and the European Universities Initiative. The panelists discussed already existing and possible future synergies between the European Universities Initiative and the MSCA, but also the obstacles that still need to be addressed and overcome.

There is much potential for synergies between the MSCA and the European Universities. Improved and intensified research cooperation, the building and strengthening of networks, the possibility to award joint degrees and to facilitate the international mobility of researchers across all disciplines, but also outside of academia, e.g. to industrial partners, spring to mind first. Partaking in a European Universities Alliance is beneficial for all participating institutions and researchers.

Brain circulation and the possibility to establish long-lasting science networks are two of the most apparent advantages of the European Universities. These networks have a good chance of successfully participating in the European research framework programmes, including the MSCA Doctoral Networks, given their experience and expertise in project management and coordination.

Excellent researchers can be found everywhere, attracting and keeping them belong to the goals of both the MSCA and the European Universities Initiative. Within networks, e.g. doctoral networks in the MSCA or a European University Alliance, it is significantly easier to build academic careers. Knowledge and innovation ecosystems pull together infrastructure and provide a research-friendly environment. The European Universities furthermore also bring new partners to already existing research networks which leads to more geographic diversity – a fact from which the MSCA can profit as well.

The COVID-19 pandemic has shown that higher education institutions are resilient and able to adapt to changing circumstances. It also has become evident, however, that digitalisation has to be improved. A digitalised work environment simplifies
networking and cooperation possibilities and enables successful research across national borders. It was also pointed out during the discussion that legal harmonisation of degrees and credit transfer systems is a prerequisite for the further development of synergies between the MSCA and the European Universities. With regards to this, improvements are needed.

The panel discussion showed that for knowledge transfer to be successful, education and research have to be considered in a more integrated approach, both within the MSCA and the European Universities. It has also been emphasised that European science cooperation goes beyond the European Union member states and must integrate strong non-EU research countries as well. The future will show where other and new synergies with the MSCA, other European programmes as well as with national funding can be found. Especially those aspects that did not work out as previously planned are important stepping stones in the development of a more diverse European research landscape.

Panelists

**Vanessa Debiais-Sainton**
Head of Unit Higher Education – DG EAC

**Peter Greisler**
Head of the Directorate Higher Education, Federal Ministry of Education and Research – BMBF

**Prof. Dr. Igor Papič**
Rector of the University of Ljubljana

**Prof. Dr. António Cruz Serra**
Rector of the University of Lisbon
Behind each MSCA Fellow is a supervisor. They are of great importance for the further career development of the doctoral and postdoctoral researchers. With the increasing demands put on doctoral and postdoctoral researchers in recent years – not only at the scientific level – the demands on supervisors have also increased. In order to clarify the role of supervisors, which benefits not only them but also the doctoral and postdoctoral researchers, we addressed this important issue for the MSCA at the conference. Important results were achieved in four different workshops that highlighted different perspectives on supervision. We are glad that these could contribute to the Guidelines for Supervision in the MSCA, which have recently been published by the European Commission.

Workshop I: Perspective of doctoral researchers

The relationship between supervisor and supervisee is naturally an unbalanced one – while the supervisor knows how to pursue a PhD, the doctoral researcher needs the support and expertise of the supervisor. Despite the fact that it is the researcher’s responsibility to complete the doctoral programme, the supervisor is de facto in charge – they can make or break the doctorate. Every doctoral researcher should therefore keep in mind to “own” their PhD, be responsible and ask for help once problems arise.

The Max Planck PhDnet Report 2019 has shown that researchers at organisations with no institutionalised supporting mechanisms (e.g. regular mandatory feedback rounds) had more problems with their supervision. A cooperative approach is necessary when it comes to trouble shooting; alternative or additional supervision arrangements (e.g. thesis advisory committees) can furthermore mediate in case of disagreements. Attending specific training programmes on conflict management are possibilities for supervisors to take an active role in improving their skills.

It is important to talk about the respective expectations and the proper structure for communication early on in the process, at best even before the beginning of the PhD. The PhDnet Report found a strong correlation between the frequency of communication and the satisfaction of the PhD candi-
dates. It is important to stay in touch with the supervisor, e.g. via virtual tools. Communication is key to successful PhD supervision and helps in preventing and dealing with problems. According to the report, good supervision even reduces the likelihood to experience mental health problems.

Prospective doctoral researchers should keep in mind that, depending on their discipline, the degree of the supervision structure can differ. A science-based doctorate e.g. will see the candidate conduct a number of experiments over a given period of time - the researcher has a good idea at the very beginning where they will end up. This is often completely different in the humanities, where the doctorate is ever-evolving and the path less predetermined.

One of the unanimously agreed upon outcomes of the workshop is that each PhD candidate should take time in selecting a supervisor and should make sure they have all important information on the doctoral programme beforehand. Every prospective supervisee should know the regulations and support services. No one should feel rushed to make a prompt decision and researchers should always remember that, if unsolvable problems occur, it is also okay to change the supervisor.

Chair

Mostafa Moonir Shawrav
Chair of the Marie Curie Alumni Association (MCAA)

Experts

Lindsey Bultema
Doctoral researcher at the Max Planck Institute for the Structure and Dynamics of Matter in Hamburg

Jamie Rohu
Doctoral researcher in Geography at Trinity College Dublin

Cornel Borit
Early stage researcher (ESR) in the MSCA-ITN programme MOVES – Migration and Modernity: Historical and Cultural Challenges, Charles University (Prague)

Rapporteur

Stéphanie Gauttier
Assistant Professor at Grenoble Ecole de Management (France) and chair of the Policy Working Group of the MCAA
Workshop II: Perspective of postdoctoral researchers

Supervision is an important part of the MSCA. Among other things, close cooperation and regular meetings between researcher and supervisor(s) to determine the progress of the research and the career development of the researcher are foreseen. But is this kind of supervision even necessary at the postdoc stage? What is the additional value and are there any differences in the form of the supervision compared to the doctoral stage? What are the obstacles and how could they be tackled? What is the future of supervision?

Three postdoctoral researchers gave a short presentation and shared their experiences concerning these questions with the workshop participants and the chair of the workshop.

In the presentations and the following lively discussion, it became clear that supervision at the postdoctoral stage is indeed still useful and that receiving advice and support for different matters remains important. Supervision at this stage of the career should, however, be rather advice-then instruction-based. Matters on which advice was considered especially useful were: giving feedback on the research, counselling on career development, and providing help in extending networks beyond the lab. It was agreed that the supervisor should provide the postdoc with opportunities, but that it is then the postdoc’s responsibility to take up these opportunities. The issue of “responsibility” was discussed in great detail.

What was considered especially important in this context is to ensure that supervisors can actually provide good supervision. For this reason, it was suggested to introduce training schemes for supervisors that would lead to an improvement of supervision in general. However, responsibility for ensuring a successful supervision cannot rest on the supervisor alone – postdocs must also contribute and collaborate. It is for instance their responsibility to show initiative and to ask for specific support. In the end the idea was raised to establish a Code of Conduct or a contract for the MSCA which defines supervision responsibilities. More specifically, it should determine the frequency of meetings and include conflict resolution strategies. The introduction of such a Code of Conduct could lead to an improved supervision in the future.
Participants

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Hôpital des Efants – (CHU) de Toulouse,
Clinical project manager and Vice Chair of the MCAA

**Thomas Baumgarten**
New York University Langone Medical Center, MSCA IF fellow

**Thomas Kmoch**
University of Tartu, MSCA IF fellow

Chair

**Alie Kwint**
Kwintessence

Rapporteur

**Scott Harrison**
Leibniz Institute for Information and Research in Education in Frankfurt,
postdoctoral researcher and Chair of the German chapter of the MCAA
Workshop III: Perspective of supervisors from academic institutions

The workshop focused on the supervision in academic institutions from the perspective of the supervisors. Over the last years, requirements for supervision have increased, not only in the MSCA. The experts outlined the challenges of today’s supervision in academic institutions and gave advice on what needs to be done to guarantee an adequate supervision in the future.

Axelle Viré outlined the challenge of temporary unavailability of the main supervisor of a student due to other professional commitments or even legal leaves (e.g. parental leave). Ad hoc replacements can be difficult due to topic specific expertise, and replacements are not necessarily fully aware of the project. A possible contingency plan is co-supervision, whenever possible. While this brings additional scientific training opportunities, it also presents challenges for the PhD student if the supervisors are not well aligned. A possible extension of projects to consider a supervisor’s legal leave periods would facilitate the supervision task.

Norbert Sewald pointed out the high importance of peer learning in a group: A system of shared supervision between the main supervisor and experienced other group members such as postdocs has proven to be of high value for academic supervision. An option to finance ERs within the framework of an ITN – like previously done in FP6 or FP7 – would enable peer-learning and be beneficial for the overall group. In addition, Norbert Sewald pointed out the high importance of a network manager.

Shannon Whitlock identified as a main challenge the provision of an environment that fosters researcher development while managing competing expectations. There is no ‘one size fits all’ and training remains a highly individualized process. Thus, the European project should allow for as much flexibility as possible to prioritize individualized training objectives over centralized ones. One way to achieve this could be the extension of the funded PhD phase up to four instead of three years.

The main conclusions of the workshop were to leave researchers room and time to grow individually. There can actually be too much non-scientific activities in too short a time, on account of the research activities and the researchers’ development on the scientific side. Moreover, peer-learning and shared supervision should be enabled, e.g. with financing of ERs and coordinated co-supervision.

The supervisors also highlighted that the networks should be burdened with as little bureaucracy as possible and receive sufficient financial support for the administration. To do one’s own research, to
be a supervisor and an administrator at the same time is tough, thus support is needed to keep the bureaucratic tasks at a low level.

Participants

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TU Delft, Coordinator of MSCA-EID ‘Step4Wind’

Norbert Sewald  
Universität Bielefeld, Coordinator of MSCA-ETN ‘Magicbullet ::Reloaded’

Shannon Whitlock  
Université de Strasbourg, Training Manager of MSCA-COFUND-DP ‘QUSTEC’

Chair

Juliane Sauer  
OxygenEUm

Rapporteur

Per Magnus Kommandantvold  
Research Council of Norway, NCP MSCA
Workshop IV: Perspective of supervisors from non-academic institutions

It is undisputed that conducting a successful MSCA project requires excellent supervision. When it comes to the non-academic sector, companies often struggle to combine their daily business with their engagement in an MSCA project. What are the main challenges for non-academic institutions hosting an MSCA fellow? And what kind of support do they wish to receive?

Three experienced supervisors from the non-academic sector engaged with an MSCA-ITN-EID, MSCA-RISE and MSCA-IF projects reported about challenges experienced so far and shared their best supervision practices developed in the context of their projects.

From their presentations and the subsequent discussion, it became clear that a good communication and precise cooperative arrangements between academic and non-academic supervisors are crucial for adequately meeting the needs of the fellow. In this regard, a joint soft-skills training aimed at fellows and supervisors from both sectors would foster mutual understanding.

Especially for SMEs it is often very challenging to internally compensate the loss of manpower dedicated to the supervision of the fellow. Providing better compensations and additional incentives could encourage more SMEs to take part in MSCA projects. Many SMEs want to participate in the MSCA, but there is a fear that the expectations cannot be met due to other requirements their staff has, based in the nature of an SME.

The intention of the EC to develop guidelines on supervision was widely embraced while emphasizing that specifics of the supervision in the non-academic sector should be explicitly addressed.
Participants

Marina Castellano
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Colin Clarke
National Institute for Bioprocessing Research (NIBRT) in Dublin, Coordinator of MSCA-EID, STACCATO

Monika Lelonek
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Chair

Christopher Gosau
German Chambers of Commerce and Industry’s (DIHK) Representation to the EU in Brussels, Director European Economic Policy

Rapporteur

Therese Lindahl
Austrian Research Promotion Agency, NCP MSCA
MSCA Falling Walls Lab 2020 – Science communication at its best

The German Presidency was pleased to host the MSCA Falling Walls Lab as part of the conference. The MSCA Falling Walls Lab gathered 20 MSCA fellows from across a huge array of scientific disciplines. During the conference, each fellow was given the opportunity to pitch their research topic, innovative project or idea and to showcase its positive impact on science and society to their peers and the jury. The distinguished jury from politics, academia, and business – led by Director General Themis Christophidou – then awarded the jury prize. In addition, the fellows also competed for an audience award.

Their research topics ranged from human rights to nanoparticles, from climate research to batteries. In their 20 inspiring talks, the fellows showed with great enthusiasm how much science can change our society for the better. And they showed how much it pays off to invest in the brightest minds – something the MSCA have been doing for more than 20 years, and something the Falling Walls Foundation has provided an excellent stage for since its foundation in 2009. Picking the winners from these 20 excellent researchers who qualified for the finals against tough competition was anything but an easy task. In the end, the jury awarded the first prize to Aurélie Lacroix for her contribution “Breaking the Wall of Therapeutic Nanoparticles”. The second prize went to Xiaomeng Hu for her contribution “Breaking the Wall of the Personalized Vaccine”, and the third prize to Luigi Bottecchia for his contribution “Breaking the Wall of Energy Poverty”. Luigi Bottecchia also won the audience award.

We would like to thank all those who contributed to the successful MSCA Falling Walls Lab 2020 and will follow the further scientific careers of our 20 finalists with great interest. We are looking forward to your next breakthroughs! In the meantime, we encourage everybody to rewatch the 20 videos on www.msca2020.eu.
Conclusion

Antoaneta Angelova-Krasteva, Director Innovation, International Cooperation and Sport – DG EAC, and Peter Greisler, Head of the Directorate Higher Education, Federal Ministry of Education and Research – BMBF, concluded the conference and thanked the participants, the speakers and the organisers for a conference with rich and insightful discussions. They also expressed their thanks to the participants of the Falling Walls Labs Competition for presenting 20 great ways of science communication.

In her closing remarks, Antoaneta Angelova-Krasteva congratulated the German presidency on the very successful conference, pointing out that the topics of conference were not only relevant for the MSCA, but also for the wider policy context. In the panel discussion ‘Synergies between the MSCA and the European Universities Initiative’ it emerged that the European Universities are already successfully taking part in the MSCA, namely COFUND. This is only a start, of course, but it shows that a cooperation is fruitful and that there is potential for even stronger synergies between the European Education Area and the European Research Area. The MSCA appear to be a key element for this.

The second topic of the conference, supervision, met with great interest. The European Commission is aware of the importance of that topic and plans to develop guidelines on supervision in the MSCA. The conference provided valuable input and showed that the role of supervisors goes beyond scientific guidance by helping the researcher to grow.

In his conclusion, Peter Greisler remarked that the panel discussion had shown that excellence and inclusiveness do not exclude each other, and that brain drain is no longer a major threat. Though brain drain still exists, the MSCA had proven to be very supportive to the European Universities Initiative by furthering brain circulation. He pointed out that if we concentrate on the synergies and work closely together, it is possible to achieve more for the whole European Research and the European Education Area. This would ensure that no European country is left behind and can make the best use of the existing tools.

He added that in the four very lively workshops on supervision, participants learned about supervision from four different perspectives, the doctoral and postdoctoral researchers, the supervisors in academia, and the supervisors in non-academia.

Peter Greisler expressed that supervision must not be underestimated, adding that supervisors are doing a great job, as do the younger researchers. He appreciated that the conference had provided a platform to come together and start a fruitful and hopefully constant future dialogue, since it had become clear once more that communication between the researchers, the supervisors and the political stakeholders is the key to success.
Imprint

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