

Declaration on Sustainable Researcher Careers



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The European Council of Doctoral
Candidates and Junior Researchers

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Executive Summary

This *Declaration on Sustainable Researcher Careers* provides recommendations, drawn up based on a symposium organised by major researcher communities, in an effort to empower researchers and secure a globally competitive European Research Area (ERA) and Higher Education sector. The Marie Curie Alumni Association (MCAA), and the European Council of Doctoral Candidates and Junior Researchers (Eurodoc) jointly urge the following critical points to be considered by all stakeholders of European research, especially by research funders and universities:

1. Provide sustainable career prospects for researchers
2. Deploy career management services at organisations employing researchers
3. Put more emphasis on transferable skills training and recognition
4. Provide a wide variety of networking options and services in and outside of academia

Failure to address these recommendations is expected to negatively impact on the 1.88 million researchers (in and outside of academia) currently working in the 28 European Union member states in terms of their job security, employability, and mental health, and we therefore urge stakeholders to act promptly.

Introduction

Sustainable Researcher Careers have been in the spotlight of researcher policies for almost a decade¹, but despite notable improvements², much is left to do.

According to Eurostat, 1.88 million researchers were employed in the 28 European Union member states in 2016, which is a 32.2% increase compared to 2006³ (with big differences among EU countries). Between 2000 and 2009, the number of doctorate holders grew by 38%⁴ in ‘Organization for Economic Cooperation and Development (OECD)’ countries and this number continues to grow. In contrast to these figures, the average gross domestic spending on research and development in the past 20 years countries grew only by 10% (again, with massive differences among OECD countries)⁵. This has led to a continuous decline in the number of permanent academic positions per researcher at universities and increasing dependency of researchers on temporary and short-term, third-party funding⁶. Consequently, early career researchers are confronted with a limited number of job opportunities in academia, while indeed the number of doctoral candidates and postdoctoral researchers is steadily increasing⁷.

As a result, on the one hand academic careers are becoming more demanding and more competitive, and on the other, doctoral candidates and researchers increasingly need to find employment outside academia.

¹ Towards a European Framework for Research Careers

https://cdn5.euraxess.org/sites/default/files/policy_library/towards_a_european_framework_for_research_careers_final.pdf

² Vitae Concordat discussion paper, 2016

<https://www.vitae.ac.uk/vitae-publications/guides-briefings-and-information/vitae-concordat-discussion-paper-2016.pdf>

³ https://ec.europa.eu/eurostat/statistics-explained/index.php/R_%26_D_personnel

⁴ OECD: Careers of Doctorate Holders <https://doi.org/10.1787/5k43nxgs289w-en>

⁵ <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>

⁶ <https://www.nature.com/articles/d41586-019-00219-5>

⁷ <http://www.esf.org/blog/post/the-post-doc-problem/>



According to a European University Association (EUA) survey in 2009⁸, just in Europe, over 50% of doctorate holders were moving into careers outside the academic sector. In 2018, already 70%⁹ of doctoral candidates, postdocs, and tenure track researchers had to seek employment outside of academia. In addition, opportunities to stay in academia, when they do arise, are often coupled with significant job insecurity due to fixed and short term contracts. Given the increase in the proportion of researchers forced to find employment elsewhere, and the prevalence of short-term funding, increasing attention should be paid to the employability and job security of researchers in and outside of the academic research environment¹⁰.

Postdocs and doctoral candidates often struggle to remain employable in jobs that are up to the level of their qualifications after their doctorate training¹¹. Besides excelling in traditional “hard”, research-specific skills, early career researchers need to acquire a number of “soft”, transferable skills, to fit in jobs both inside and outside of the academic sector. This often means that researchers are expected to be adaptive and capable communicators, experts in research and (open) data management, effective networkers, able to manage stressful situations in their research, and at the same time remain open, innovative, and constantly mobile. This is a big ask of researchers, especially considering that they often are employed on short-term, temporary contracts, and work under high pressure to constantly produce high-quality and publication-worthy results.

The Marie Curie Alumni Association (MCAA), and the European Council of Doctoral Candidates and Junior Researchers (Eurodoc) are concerned about the current situation and call for action for sustainable researcher career models in Europe and across the globe. This call for action concerns every organisation that trains and employs researchers in and outside of academia, as well as research funding agencies, and individual researchers alike.

On 24th February, 2019, the MCAA organised a symposium on the topic of potential career paths of researchers, where distinguished speakers together with 400 researchers discussed key issues and factors influencing sustainable researcher careers. During this meeting participants voiced a number of challenges which are summarized in this declaration.

⁸ [Collaborative Doctoral Education - DOC-CAREERS project I \(EUA publication, 2009\)](#)

⁹ <https://www.nature.com/articles/d41586-018-02696-6>

¹⁰ <https://doi.org/10.5281/zenodo.1465457>

¹¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5958315/>



Challenge 1 - Career Prospects and Research Funding

Conducting meaningful research is expensive both in terms of time and resources. At the same time the competition for research funding and resources is increasing. Therefore, it is surprising that researchers whose performance is evaluated as excellent early in their career, are not necessarily offered long-term employment in science. Furthermore, the short-term doctoral and postdoctoral research funding options postpone the decision of researchers on whether to leave academia for prolonged periods of time, but offers no real solution. As a result, Europe has is now facing a "lost generation of scientists"^{12,13}.

High levels of competition for research funding - together with the short-term funding opportunities - especially in the early research career stages, is damaging both to the quantity and the quality of research output as time spent on acquiring research funding is not spent on research itself^{14,15}. Furthermore, current attempts to simply establish a scientific age limit to access funding without other career support measures is counter-productive and only worsens the problem, as it pushes the most experienced researchers out of the system, while the less experienced will face the same problem ahead.

Recommendation: Provide sustainable career prospects for researchers

Researchers deserve more stability and predictability, when it comes to their career. Funders of research — both public and private — should set researchers up for longer term sustainable employment and employability. It is imperative that this is reflected in research funding mechanisms. The creation of more permanent academic research positions, supported by long-term, predictable, and sustainable funding programmes in Europe, is essential. Furthermore, the early involvement of potential future, non academic employers of researchers, such as industry or government organisations, is desirable, in order to plan and finance research career transitions. Implementing career progress tracking systems on institutional, national or even international levels, as suggested by the European Council in 2017¹⁶, could be an important source of information in this respect. Subsequently, this effort should result in stable, long-term research career perspectives both in and outside of academia.

¹² <https://www.mariecuriealumni.eu/magazine/news/lost-generation-scientists>

¹³ <https://www.nature.com/articles/d41586-018-05745-2>

¹⁴ Point 8 of the "Manifesto for the future of work and organizational psychology" also calls for minimal distraction from core research tasks: <https://www.tandfonline.com/doi/full/10.1080/1359432X.2019.1602041>

¹⁵ <https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000065>

¹⁶ [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017H1209\(01\)&from=en](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017H1209(01)&from=en)



Challenge 2 - Career Management Support

Early career researchers are a high-risk group when it comes to mental health, well-being¹⁷ and work-related stress¹⁸. They work under intense pressure while working towards unpredictable research outcomes¹⁹. As a result, doctoral researchers face a three times higher risk for developing mental health problems than highly educated people in the general population²⁰. Therefore it is not a surprise that the number of junior researchers diagnosed with burn-out, depression, and anxiety is continuously growing. Doctoral researchers worldwide report rates of depression and anxiety that are six times higher than those in the general public²¹. At the same time, the available organizational support to address high stress levels is still far from sufficient.

Evidently, the current highly competitive research funding landscape and the dire job prospects in academia are key factors in this negative situation. However, a strategic approach towards individual career development would help to eliminate the above mentioned negative impact. More clarity on alternative career opportunities and guidance in how to achieve necessary competencies required for future career steps are currently in high demand (and low supply) in the academic system. That means universities and research supervisors need to be transparent about the potential employment opportunities and help all researchers to set clear goals towards their future careers.

Recommendation: Deploy career management services at organisations employing researchers

Organisations should develop methods and services for career management in order to clarify and evaluate individual employment opportunities. A clear and detailed scenario of possible career pathways should be presented early in the doctoral program to broaden the awareness of all professional directions. Adequate support and mentoring should be provided, (e.g. in career and mental health management), keeping in mind that at any point a single pathway can be differentiated. The consequences of career decisions made, especially in terms of available funding, support, mentoring, or ultimate benefits, should be similarly understood by all stakeholders.

In addition, researchers need to be trained to reflect on their own skill set (including research specific and transferable skills), which is a routine activity in non-academic environments. Researchers should be supported in identifying their own strengths to generate an objective view of their fit with a variety of different careers inside and outside of academia.

¹⁷ <https://www.nature.com/articles/d41586-018-04998-1>

¹⁸ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5873519/>

¹⁹ <https://blogs.lse.ac.uk/impactofsocialsciences/2018/11/26/lets-focus-on-the-research-process-not-the-outputs/>

²⁰ <https://elephantinthelab.org/mental-health-crisis-doctoral-researchers/>

²¹ T. M. Evans et al. Nature Biotech. 36, 282–284; 2018. <https://www.nature.com/articles/nbt.4089>
<https://www.nature.com/articles/d41586-018-03803-3>



Challenge 3 - Transferable Skills Training and Recognition

After completing their doctoral training, the majority of researchers leave academia and find employment in other sectors. There, they often encounter a mismatch between their skill sets and non-academic job requirements, because universities typically train researchers mainly for an academic type of career. On their own, hard, research-specific skills are not sufficient, and hence researchers need a number of critical transferable skills in order to strengthen their integrity and employability both in academic and non-academic settings. The mastery of certain 21st century skills (e.g. critical thinking, leadership, communication, or time management) is:

- essential in at least two thirds of all job openings by 2030^{22,23}, and allow researchers to be more flexible to meet the demands of the modern researcher labour market, which is becoming increasingly volatile, uncertain, complex, and ambiguous²⁴;
- strategic for individual employability and future-proofing (these skills are hard to acquire and hard to automate)
- strategic in a new reality of commoditization²⁵, leading to (much needed) higher leadership and management quality within academia.
- important to articulate what the nature of researcher's expertise is and how this expertise is relevant within and beyond the academic context.

Furthermore, researchers need to speak the non-academic language, to recognise and explain clearly the skills they acquired through their doctoral training to prospective non-academic employers.

Recommendation: Put more emphasis on transferable skills training and recognition

Organisations should enrich their researcher training with transferable skills training, reflecting on the growing need of internationalization, interdisciplinarity, open science, cross-cultural, or gender equality aspects of 21st century work. Furthermore, both individual and organisational efforts are needed to develop critical transferable skills such as networking, self-marketing, persistence, negotiation, or communication²⁶. Excellence in transferable skills and community engagement should be part of researchers' regular performance evaluation. Engaging with bottom-up, researcher-driven initiatives²⁷ addressing this type of training, like alumni organisations, or professional researcher networks, is a possible step forward. These complementary activities to research should be supported, rather than discouraged, by a dedicated and reasonable percentage of research project deliverables. As a result, all these efforts should point towards bridging skill gaps between academic and non-academic sectors. As higher education institutions have high intake of doctoral candidates and postdocs, and many are still very hierarchically structured with limited possibilities for career advancement, it is also their shared responsibility to prepare researchers to be employable outside of academia after doctoral or postdoctoral research.

²² <https://www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students/>

²³ <https://www2.deloitte.com/au/en/pages/economics/articles/soft-skills-business-success.html>

²⁴ Identifying Transferable Skills and Competences to Enhance Early-Career Researchers Employability and Competitiveness: <http://eurodoc.net/skills-report-2018.pdf>

²⁵ <https://sloanreview.mit.edu/article/when-jobs-become-commodities>

²⁶ Weber, C. T. et al. (2018) [Identifying and Documenting Transferable Skills and Competences to Enhance Early Career Researchers Employability and Competitiveness](#). Brussels: European Council of Doctoral Candidates and Junior Researchers. This report contains a matrix of transferable skills with nine categories as summarised in the [Eurodoc Transferable Skills for Early-Career Researchers Infographic](#).

²⁷ The [SciLink Foundation](#) is a non profit, follow-up initiative of the EC-FP7-MSCA-ITN [Eduworks-Network](#) project



Challenge 4 - Networking

Usually, researchers are highly focussed on a very specific topic, on which they may work for several years and mostly within a single institution. This may result in both mental and physical isolation, which can be very demanding. It is important to work on ways to establish lasting networks and connections with peer researchers inside and outside academia, as these connections provide feedback, social support, and future opportunities. Academic settings typically provide frequent inside-academia networking opportunities (e.g. conferences, symposia, summer schools), but building meaningful networks outside academia still all too often depends solely on individual proactivity. Therefore, it is of paramount importance to provide, from early doctoral training onwards, institutional and systemic aid for the building of sustainable networks. Such aid might include incentivising the participation in non-research activities such as alumni or professional associations, mentoring programs and discussion groups including researchers who transitioned from academia to industry (intersectoral mobility) or other non-academic sectors, or providing mobility grants for researchers²⁸.

Recommendation: Provide wide variety of networking options and services in and outside of academia

Researchers should be prepared to function in diverse professional environments. Therefore, higher education and researcher training organisations should also support researchers' inter- and intra-sectoral mobility. Initiatives and programmes supporting mobility between academia and, corporate, entrepreneurial (start-up), governmental, or NGO environments should be greatly enhanced and expanded. These elements should support the European Open Innovation Ecosystems agenda²⁹ to create a sustainable dynamic between these sectors. The resulting long-term, strategic partnerships will transform scientific outputs to innovation, while facilitating the intersectoral mobility of researchers and the sustainability of their careers. Furthermore, systematic organisational support is needed to identify and engage with professional networks in and outside of academia to meet and learn from like-minded people (such as the start-up or NGO communities). Non-EU researchers working in the EU are in a particularly difficult situation in this respect, due to cultural differences in professional and interpersonal communication, and administrative bottlenecks, like potential travel restrictions due to VISA regulations.

²⁸ <http://eurodoc.net/sites/default/files/attachments/2017/133/eurodocfp9statement.pdf>

²⁹ <https://ec.europa.eu/digital-single-market/en/open-innovation-20>



Conclusion

It is increasingly clear that fundamental, cutting-edge research should not be based on current, short-term funding programmes and contracts. Currently, researchers are not being empowered to appropriately sustain the outcomes of their own activities. The limited employability prospects in research can indirectly reinforce instability of institutional support that lacks an understanding of the multi-directional career development of researchers on fixed-term contracts. In the light of the above mentioned challenges, there is a general consensus among the signatories of this declaration that such a high-risk job as a researcher should be compensated with better employment conditions and job security, and a healthier overall research culture and environment. To achieve this and to build up successful and sustainable researcher careers, more permanent positions, long-term funding programmes, effective organisational support in transferable skills training, extended networking and mobility programmes are strongly needed. If we do not put these issues and actions front and center, the consequences will be a severely weakened performance of the European Research Area³⁰, and particularly the European higher education sector.

³⁰ https://ec.europa.eu/info/research-and-innovation/strategy/era_en



About MCAA

The Marie Curie Alumni Association (MCAA) is a global network open to any past or present researchers beneficiaries of the Marie Skłodowska-Curie Actions (MSCA). MSCA is one of the European Union's flagship training initiatives and provides research grants supporting researchers' international and intersectoral mobility at all stages of their careers, across all disciplines. MSCA fellowships are among Europe's most competitive and prestigious awards, aimed to support the best, most promising researchers. Around 120,000 researchers have already benefited from the programme and this number is rising rapidly. MCAA's global membership currently consist of more than 13 000+, high quality researchers, and professionals with research background, organised in 34 chapters and 11 Working Groups.

<https://www.mariecuriealumni.eu>

About Eurodoc

Eurodoc, the European Council of Doctoral Candidates and Junior Researchers, is a grassroots federation of 26 national associations of early career researchers from 28 countries in Europe. Eurodoc was established in 2002 and is based in Brussels. As representatives of doctoral candidates and junior researchers at European level, we engage with all major stakeholders in research and innovation in Europe.

<http://eurodoc.net/>



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Supporting Organisations

