



# RESEARCH CAREERS: THE SITE FOR GENDER+ INCLUSION

## Introduction

Sustainable and inclusive research careers<sup>1</sup> are key foundations for ensuring high standards of science, research results, knowledge transfer, and innovation, in the sense that they allow for an optimal allocation of highly qualified human resources and capacities, improving the system's competitiveness in the short and the long run.

However, the growing lack of funding, coupled with an overly restrictive definition of scientific excellence (Jenkins et al., 2022), has led to an excessive increase in competition for positions at the national and global levels, resulting in reduced success rates for grant applications and an exacerbation of existing inequities and inequalities. Policies have to clearly address this complex problem in order to prevent or offset these contradictory impacts and to better preserve the sustainability and inclusiveness of the Higher Education (HE) and Research and Innovation (R&I) systems in general and of research and academic careers in particular. It is essential to further refine and adjust policies so that they more efficiently tackle their own systemic unintended consequences and regressive impacts, in particular the perpetuation of the 'cumulative advantage' and intersectional privilege that some enjoy compared to others (Cech, 2022; Merton, 1968).

Research careers have long been and remain the target of attention at the European policy level, and they are clearly the focus of several recent policy initiatives, including the

1 | Research careers – consist of four stages: R1: First Stage Researchers (up to the point of PhD); R2: Recognised Researchers (PhD holders or equivalent who are not yet fully independent); R3: Established Researchers (researchers who have developed a level of independence); R4: Leading Researchers (researchers leading their research area or field). These research career stages can be distinguished across different sectors, including BES, GOV and HEIs (MORE 4 Report, 2021).

**Inclusive research careers** – include the acknowledgement and valorisation of diversity in research roles and careers [...] taking into account "diversity in the broader sense (e.g. racial or ethnic origin, sexual orientation, socio-economic, disability) in research teams at all levels and in the content of research and innovation" (Agreement on Reforming Research Assessment, 2022, adapted).

Council Conclusions on Deepening the European Research Area: Providing researchers with attractive and sustainable careers and working conditions and making brain circulation a reality (2021), the Council Recommendation on a Pact for Research and Innovation in Europe (2021), the European Research Area Policy Agenda and dedicated actions for the period 2022–2024, the new frame of profiles and the European Charter for Researchers (2023), and the European Framework for Research Careers adopted in late 2023.

Adding to these documents, the <u>Ljubljana Declaration (2021)</u> acknowledges gender equality principles and underlines the need for inclusive research careers. These policy documents increasingly address inclusiveness and gender equality in relation to advancing the framework for research careers, including the issue of gender-based violence.

The aim of this position paper is to contribute to the more effective fulfilment of the vision, guidelines, and collective concerns expressed in the above policy documents, specifically focusing on the promotion of gender+ inclusive research careers, while emphasising gender equality, diversity, and inclusiveness as the mainstays of sustainable research careers. This would help to ensure equal chances of realising personal career ambitions for all and remove structural and cultural barriers.

The set of recommendations proposed are addressed to policymakers, at both the European and national levels, and to relevant national policymakers, research funding organisations (RFOs), research performing organisations (RPOs), and higher education institutions (HEIs). At the same time, these recommendations aim to seize this opportunity for greater policy coordination across the ERA, while also necessarily safeguarding the specific national contexts and policy ownership. Structural changes in research careers have to interact with the specifics of national legal frameworks and systemic constraints (including at the level of institutions, such as RFOs and RPOs). Tangible improvements in the research profession, and specifically inclusiveness issues, are very much in national hands.

The path to building gender+ inclusive research careers is complex and requires a shift in the focus of policies towards the elimination of multiple and intersecting grounds of discrimination. R&I and HE systems must safeguard and support gender equality, diversity, and inclusiveness. In fact, the concept of 'inclusive research careers' used in this policy brief specifically means 'gender+ inclusive research careers'. This understanding of inclusiveness is rooted in a concern about gender inequality; it integrates grounds of discrimination and an intersectional approach while keeping gender at its core. With this document and its recommendations, we aspire to positively transform the reality of the R&I and HE systems, by proposing an advance in terminology and knowledge (gender+) to further impact the political sphere.

These recommendations seek to address the barriers that arise along a research career, which is *taken as a continuum over* the life course. Valuing the diversity of researchers' profiles, roles, and research activities and outcomes, in recruitment and assessment, is a factor for greater gender balance and inclusion. Significantly impacting this diversity, <u>Research-Comp</u>, a EC tool, was created to specifically support the development of researchers' transversal skills and foster inter-sectoral careers.

The present recommendations derive from the gaps and main conclusions identified in the analysis of the benchmarking report on <u>Inclusive Research Careers</u>, which was developed under the GENDERACTIONplus Project funded by the Horizon Europe that is

dedicated to advancing inclusive gender equality in the European Research Area. This report was discussed within the GENDERACTIONplus team and the two Communities of Practice (CoPs) of National Authorities and RFOs. These recommendations were discussed with an external group of experts beyond the internal discussion within the Consortium.

## Statement of the issue

In the EU, 41% of scientists and engineers are women. However, the picture changes when we look at the most senior research positions and at particular fields, where the percentages hover between 20 and 30 percent (European Commission, 2025). The European Commission Statement 'We still need more women in science', published on 11 February 2024, clearly identifies the urgent need for more action, despite recognising progress in gender equality in science: 'Only if we address the crucial aspects of gender equality, diversity and inclusion can we be sure that research and innovation address challenges concerning us all.'

Research careers are at the heart of the R&I and HE systems. Indeed, they are the site where all policies and measures for improving gender equality and inclusiveness ultimately materialise and become tangible. It should be noted, however, that, across R&I and HE systems, policies on inclusive research careers are rare or are not clearly outlined.

#### Precarity and lack of career prospects

The drive to increase the proportion of women in research is challenged by the fact that there are not enough academic positions to accommodate the people with PhDs interested in them. According to the European Commission, 'the EU remains the world leader for the number of researchers, with a 23.5% share. However, there has not been a similar increase in the number of academic positions and the reality is that only a tiny percentage of PhD graduates will find a job in the academic or public research sector. Therefore, they must look for employment outside these sectors. In fact, given the small number of researchers that progress to become academics, it is academia that is the alternative career' (European Union, 2023a).

The resulting precariousness of researchers is certainly an obstacle to gender+ inclusive research careers. In fact, women currently make up the majority of PhD students in many countries, but the top positions in research are predominantly occupied by men, so precarity is experienced much more by women. In this context, the assessment criteria of research proposals (and curricula vitae) are recognised as crucial. In addition, the eligibility criteria to apply for funding must also be a focus of attention, because the possibility of access to funding application instruments is often blocked for administrative reasons (such as 'age'). In principle, no one should be excluded, from the outset, from a research career for reasons other than a lack of talent, motivation, or scientific merit. The situation is so disruptive that a new vision for doctoral education is emerging: 'Doctoral education

<sup>3 |</sup> According to <u>Eurostat</u>, in 2021 in the EU most researchers worked in the business enterprise sector (56%) and the higher education sector (32%), followed by the government sector (11%).

and postdoctoral training need to be geared not only for careers in academic research but increasingly for research careers beyond academia, or in non-research careers that can benefit from the advanced skills of doctorate holder (OECD, 2021: 11).

This new vision could serve as a useful way of mitigating the aforementioned excessive competition for funding at the national, European, and global levels. Indeed, the most severe underrepresentation of women relative to men is in the Business Enterprise Sector (BES), and not in the Government (GOV) and Higher Educations Institutions (HEI) sectors. Within <u>OECD</u> countries, the share of women among total researchers in the BES is very low: there is at most only 1 woman for every 5 researchers.

The BES has a huge role to play in absorbing highly qualified employees, in particular women, while also maintaining competitiveness levels within and across systems. The current discussion on the new concept of the Single Market (SM) and the '5th freedom' – putting research and innovation drivers at the core of the SM and fostering an ecosystem where knowledge diffusion propels economic vitality, societal advancement, and cultural enlightenment<sup>4</sup> – is certainly a favourable context in which to enhance this role (Letta, 2024).

## GENDERACTIONplus policy analysis: the failure to address critical issues relating to inclusive and sustainable research careers

The GENDERACTIONplus report on inclusive research careers presents the state of the art of research careers in several European countries from the point of view of related national authorities and RFOs and a summary of the findings. All in all, the report highlights the political/policy failure to address critical issues connected with inclusive and sustainable careers.

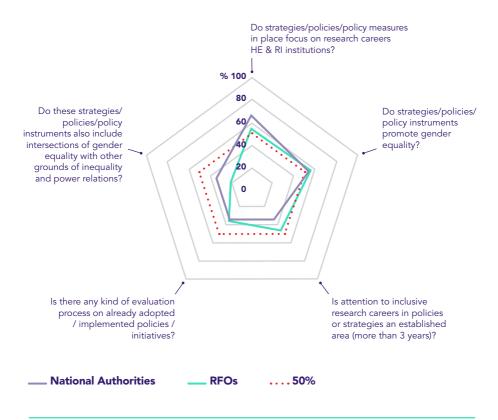
Globally, these results show that the progress has been insufficient, with barely half of all national authorities and RFOs having guiding strategies, policies, or specific actions on research careers and even fewer having ones on inclusive research careers. A less favourable pattern can be observed at the national and institutional levels in terms of the robustness of the policies already in place, particularly with respect to monitoring mechanisms of national policies (which are found in less than 50% of cases). A more disparate and on the whole adverse pattern is observed when it comes to measures addressing the intersection of gender equality with other grounds of inequality and power relations. In short, there is still a long way to go to achieve a gender+ approach (Figure 1).

#### National policies addressing research careers from a gender+ perspective

The benchmarking analysis on national policies identified eight countries among the fifteen participating in the survey that in some way address the issue of inclusive research careers. Only four countries had established policies on inclusive research careers (in place for at least three years). The policies that do exist tend to address mostly R&I as a whole, with varying degrees of focus and/or reference to other policies. The land-

Figure 1

The main features of national and RFO strategies, policies, and measures on gender+ research careers (% of cases answering "yes" to each question).



scape of current policies on research career inclusiveness is heterogeneous and varies depending on national contexts and priorities. Concerns with gender equality, diversity, and inclusion are seldom addressed in relation to research careers, even when they are approached in the same policy documents. The report suggests that for research careers, the focus is on work-life balance and working conditions and/or on career development and progression, which is reflected in the terminology used.

Some measures and terminology specifically focused on inclusive research careers deal with the compatibility of (child)care with an academic career; the general representation of women, especially in relation to leadership or top academic positions; gender balance in recruitment and evaluation committees; and women's innovation and entrepreneurial skills. The use of an intersectional approach is still too recent and is not yet established in the policy narrative.

## The policies of Research Funding Organisations addressing research careers from a gender+ perspective

Regarding RFOs, out of the twenty-one organisations responding to the benchmark survey, eleven have some strategy, policy, or measure in place addressing research careers and promoting gender equality. Inclusive research careers are an established focus area for nine RFOs, primarily supported by the principle of equality, which is rooted in the ethical imperative of non-discrimination. Only four RFOs consider other grounds of inequality besides gender, and the most prominent is age. However, to achieve gender+inclusiveness in research careers, attention must be paid to several grounds of inequality and an intersectional approach should be adopted. Only one RFO out of twenty-one has measures in place based on this approach.

## Signs of progress on the topic

Despite the policy landscape described above, emerging signs of positive progress on inclusive research careers can be identified in several strands: i) new knowledge on the topic that is advancing aspects of gender equality & inclusiveness, including intersectionality; ii) policymaking based on scientific evidence; and iii) awareness – implicit or explicit – of the topic by key actors in the R&I and HE systems in anticipation of new practices.

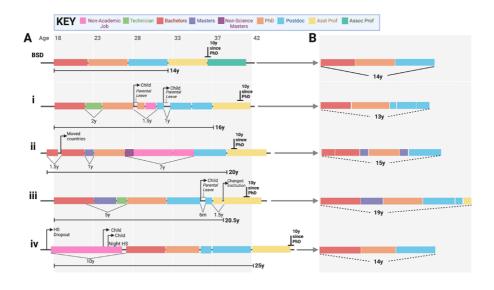
Many RFOs acknowledged the need to continuously improve the impact of policies towards greater inclusiveness as a shared imperative (through mutual learning, discussing topics, raising awareness, and involving a broad spectrum of stakeholders) and the need to design strategies and set priorities for preventing discrimination and promoting inclusive gender equality along phased plans. These are signs that showcase an awareness that may trigger new practices.

One relevant area where new knowledge and empirical evidence on research careers is becoming available is the existence of considerable variety in career patterns over time and place. Vinkenburg et al. (2020) provide an overview of research careers in different disciplinary and national settings across Europe, based on sequence analysis of complete career histories of over 1000 ERC applicants and grantees. While "steady advancement" is common, both in universities and research institutions, five unique career pattens are identified for both starting and more established researchers, and "excellence" (in terms of grant application success) is found across all patterns. Interestingly, gender differences in career patterns are limited. Linear upward career progression is thus a normative expectation rather than an empirical reality.

In a convincing appeal to 'Supporting nonlinear careers to diversify science', Vlasits et al. (2023) contrast their own career experiences to a theoretical and linear model of a research career path (Figure 2). This theoretical model ignores non-academic jobs or technician work and thereby neglects their value as a source of transferable skills, relevant experience, and resilience of researchers. The contrast highlights, for example, the unfairness of an eligibility requirement based on chronological age in the scope of funding instruments. Indeed, this limitation contradicts current EU recommendations: Member States are recommended to promote and support open, transparent and merit-based selection and recruitment of candidates, without penalisation for career breaks or non-linear, multi-career, and hybrid paths (European Union, 2023b: 10).

Figure 2

**Reproduced from Vlasits et al. (2023)** – 'Academic trajectory comparisons to a model linear career. (A) The trajectory for fictional Big Shining Doctor (BSD) is compared to each author's career trajectory (i–iv), including nonlinear academic and non-academic time periods. (B) Each individual career progression is shown with the nonlinear components "spliced out." Note how timelines for i–iv are almost equivalent to BSD in panel B. Age is marked at the top and careers are color-coded by stage (see key). The 10-year mark from PhD conferral is also marked for each career. Boxes are drawn to scale with respect to time. HS, high school' [secondary school].



Vlasits et al. (2023) provide an insightful contribution to understanding how inequalities, mainly those based on gender, can jeopardise the success of researchers and research. Their appeal underlines the need for policies and measures to promote gender-inclusive research careers for the benefit of science. The article demonstrates how research careers, particularly women's, are negatively impacted when linearity (i.e., uninterrupted upward mobility) is assumed in policymaking.<sup>5</sup>

'In summary, those who have taken nonlinear paths through their academic careers are currently disadvantaged by limits to funding eligibility and negative bias for their choices. Because nonlinear paths are more likely to be taken by women, caregivers, and those from underrepresented or low socioeconomic backgrounds, many funding eligibility requirements are in conflict with the goals of the scientific community to improve representation of people from a wide variety of backgrounds in science. We believe that people who have taken nonlinear paths enrich the scientific community, bringing creativity and resourcefulness as well as job skills and life experiences that benefit the lab.' (Vlasits et al., 2023: 4).

## **Identified gaps**

According to the GENDERACTIONplus <u>Policy Report on Inclusive Research Careers</u>, the following gaps need to be addressed to achieve more inclusiveness in careers:

#### **National authorities**

- The established ERA priorities on research careers and on gender equality and inclusiveness are not yet translated into national policies, despite the longstanding European debate.
- Policies very seldom define 'research careers' and 'inclusive research careers'.
- Some inclusive research career policies have been established, but not all of them have yet been monitored or evaluated.
- 5 | 'Nonlinear research careers involve transitions to a different path, sometimes more than once. These transitions may reflect the researcher's freedom of choice, as mobility options (international, intersectoral, interdisciplinary, other), or negative constraints (as job precarity)'. Source: Types of Non-linear Career Paths, Maryville University (Adapted) (GENDERACTIONplus Glossary).
- 'Employers and funders should encourage and support **non-linear and multi-career paths**, to be understood as paths characterised by geographical, disciplinary, inter-sectoral, and inter-organisational mobility e.g. secondments. They should also encourage hybrid paths combining simultaneously different sectors, which should be considered on a par with linear career path (European Union, 2023b: 20)'.
- In the debate at the Stakeholder Engagement Consultation Workshop on Research Careers (30 September 2024) using the term 'non-linear' was contested, because the negation (non-) does not challenge and in fact reproduces an artificial norm (linear careers). Linear upward mobility is an ideal, while empirical evidence suggests that considerable variety in career patterns is the reality.
- In this document we use the term 'non-linear' research careers with the breadth implicit in the first two quotes and without penalising career breaks, as mentioned above (European Union, 2023b: 10).

- Approximately one-half of the countries that responded to the survey have specific
  or broad strategies and policies on research careers that promote or focus on gender
  equality and inclusiveness. However, these policies often address these two topics separately and generically.
- There is a fragmented policy approach in which careers are not structured in conformity
  with their intrinsically continual and coherent character which should include non-linear
  paths; there is also an exclusive focus on gender and inclusiveness topics in 'recruitment
  and working conditions' and 'career development and progress'.
- Current policies on research career inclusiveness are heterogeneous and depend on national contexts and priorities.
- Broad-based national strategies and policies on research careers addressing the HE and R&I systems tend not to address gender equality and inclusiveness explicitly.
- Cultural obstacles to inclusive research careers persist across countries, regardless of whether they have specific or broad-based policies.
- Very few national authorities discussed the topic of assessment before (the introduction
  of) the <u>Agreement on Reforming Research Assessment</u> and the <u>CoARA</u>, and it is therefore very unlikely that these concerns will have already been translated into policies.
- Advancing national legal frameworks is needed to raise the issue of inclusive research careers in national contexts (as a first priority among others).
- The implementation of policies on research careers does not necessarily mean that they
  are also reflected in the social security systems for researchers.

#### **Research Funding Organisations**

- RFOs are contributing at a different pace to bringing about greater inclusiveness in research careers and some are more active than others.
- A lack of coordination between national authorities and RFOs means greater difficulties in making progress on gender+ inclusive research careers. In particular, the lack of available resources in RFOs to achieve minimally acceptable success rates in their funding instruments tends to exacerbate using overly restrictive definitions of excellence and further increases excessive competition. This in turn increases precariousness, which women experience more often than men.
- Gender parity in peer review panels has shown progress in some RFOs. They are aware of the relevance of assessment (and the need to improve it) and many of them are joining the <u>CoARA</u>.
- For RFOs in less favourable national and political environments, the difficulty lies in effectively getting the debate on research careers onto the agenda.
- There is a risk of the gap between RFOs growing wider, with the more advanced ones becoming even more advanced and the others falling further behind, if international guidelines remain mainly recommendations and are not made mandatory.
- A lack of sufficient human, financial, and structural resources for inclusive research careers is a major challenge that must be overcome to ensure progress.
- There is a lack of statistical information and knowledge about inequalities at the institutional, national, and international levels.
- Other grounds of inequality besides gender as well as the multiple and intersecting grounds of discrimination have yet to be sufficiently addressed.

### Recommendations

The recommendations are based on the main conclusions and gaps identified in the analysis of the benchmarking Report on <u>Inclusive Research Careers</u>. They also reflect the debate in the in national policies and RFOs' CoPs, as well as in the Stakeholder Engagement Consultation Workshop mentioned above.

#### At the European level

The European Commission and Member States, through policy recommendations and legislation, should:

- Support closer interactions between the ERA (European Research Area) and the EHEA (European Higher Education Area) in order to improve the cultural acceptance of gender+ inclusiveness concepts and issues in the HE system and facilitate their uptake in knowledge development by researchers and by policymakers when addressing the R&I system.
- Systematically promote discussion forums on research careers and inclusiveness, in particular by liaising and creating stronger synergy between the ERA Forum Subgroups / ERA Policy Agenda actions, especially those on research careers, gender equality, and assessment.
- Establish mechanisms to further encourage MS to properly translate and make visible the
   ERA priorities adopted at the EU level into their policies on research careers and on gender equality and inclusiveness, countering political resistance and increasing the overall
   level of accountability.
- Develop new actions and funding for more inclusive research careers in the Reforming and Enhancing the European Union R&I System part of the WIDERA Work Programme, in particular by seizing the opportunity offered by the discussions of FP 10.
- Stimulate a stronger alignment with the <u>new Charter & Code</u> principles among R&I and
  HE institutions at the national level through a new generation of European incentives
  (e.g. the European Commission's acknowledgement of customised institutional action
  plans/HR strategies, using the <u>Human Resources Strategy for Researchers (HRS4R)</u> and
  the <u>HRS4R Award</u>).
- Involve <u>CoARA</u> working groups, in particular the Towards an Inclusive Evaluation of Research (TIER) group, in the formulation of policies at the European and national levels that take into account non-gender+ bias and a change in paradigms in **research assessment** and do so by valuing diversity (in researcher's profiles, roles, paths, research outputs, research outcomes, activities...).
- Address the problems of excessive competition and the overly restrictive definition of
  excellence at the European and global levels, which affect the optimal allocation of resources by leaving high-level scientific projects and diversity in science (e.g. researchers,
  researchers´ profiles, research careers, research questions, research outputs) outside the
  scope of funding.

- Improve the European legal framework on data protection, which also has an impact
  on the national level, and allow for a more refined collection of data on individuals in
  order to deepen knowledge about society and social groups. This is essential for more
  accurate policies that combat discrimination and ensure gender+ equality in research
  careers.
- Promote knowledge on responsible data collection and research methods on research careers for underrepresented minorities, given the great complexity and difficulty of this issue.
- Promote the mission of the OECD and EC RelCO Observatory Research and Innovation Careers Observatory, which actively contributes to making gender equality and inclusiveness an integral part of research careers, thereby allowing for the long-term monitoring of the full range of related issues.
- Provide funding to develop a pilot study on methodologies for the comprehensive and overall monitoring and impact evaluation of Gender Equality Plans (GEPs) along research careers at the national level.
- Further develop, under the European Pillar of Social Rights, an effective European Tracking Service (ETS) on Pensions and the RESAVER<sup>6</sup> in order to address the social protection issues of mobile researchers, integrating all gender sensitive aspects.
- Develop policies that stimulate BES to play its crucial role in absorbing highly qualified
  employees, in particular women PhDs and researchers, in an effort to counteract the
  current severe underrepresentation of women in this sector, avoid the waste of resources, and fight inequality, thereby safeguarding competitiveness and sustainability within
  and across systems.
- Extend a new generation of European incentives to the BES, including the implementation of GEPs as an eligibility criterion for European funding, and develop necessary awareness-raising actions. A transition period, similar to the Horizon Europe model for the public sector (HEIs, RPOs, RFOs), should be considered to ensure effective implementation.
- Strengthen the focus of European policies on the participation of women in the STEM field of science (through new generation programmes) and foster women's entrepreneurship.

#### At the national level

The governments and policymakers of Member States should:

- Use the current discussion on the ERA Policy Agenda 2025–27 to guarantee that gender+ equality is sufficiently addressed as a structural and transversal priority across actions and seize the opportunities arising from the discussions of FP10.
- Incentivise the effective implementation of the principles on gender balance and non-discrimination of the revised **Charter and Code for Researchers** to respond to the current challenges faced by researchers, research institutions, and higher education institutions, and foster the overall level of accountability.
- Improve/create high-level national policy coordinating structures to create an integrated action on the development of inclusive research careers. This structure should be tasked with translating the ERA priorities on research careers and on gender equality and inclusiveness into national policies in order to counter national policy resistance.
- A national vision of gender+ inclusive research careers should be elaborated that includes a clear definition of research careers and an outline<sup>7</sup> that considers the whole career continuum, while incorporating the principle of diversity and valuing variety in career paths.
- Inclusive research careers should be translated into a suitable set of strategies/policies
  or a policy mix or into legal frameworks, depending on the specific national context, in
  order to create the necessary conditions to build a true national policy 'ownership'.
- Embed gender equality and inclusiveness as an integral part of national research careers, and not as separate issues, while mainstreaming a gender perspective wherever appropriate, and not necessarily confining it to recruitment and working conditions or career development and progression, and adopt the whole cycle approach along the research career continuum (European Union, 2023b).
- Value diversity and variety in career paths and researchers' profiles, and accept this as
  the new Europe-wide paradigm for inclusive research careers.
- Actively participate in the <u>CoARA</u> as a way of implementing more transformative practices in research recruitment and <u>research assessment</u> across national policies.
- To facilitate the transition between multiple or hybrid career paths and to ensure their
  valorisation, training programmes are instrumental especially for peer reviewers,
  RFO staff, PhD coordinators, directors of R&D institutions, and Pls of funded grants.
  Gender+ Training certificates should be required where appropriate.

- Advocate at the European and national levels the need to adjust and improve the legal
  framework on data protection in order to allow for more detailed knowledge of societies and accurate policies that effectively combat all forms of discrimination. Ethical and
  fair use of this information is to be clearly safeguarded along with respect for differences in national legal frameworks.
- Address in national policies the problems of excessive competition and of the overly restrictive definition of excellence, which affect the optimal allocation of resources by leaving high-level scientific projects and diversity in science (researchers, researchers' profiles, research careers, research questions, research outputs) outside the scope of funding.
- Invest in research career policies aimed at the professionalisation of research activities
  based on the regular legal form of contracts in order to avoid and eliminate from the
  outset precarity in early and in all positions of a career, so that all researchers are consistently covered by social security systems (across illness, retirement, unemployment, and
  maternity/parental and post-maternity leaves; as PhD students and post docs).
- Develop policies that stimulate BES to play its crucial role in absorbing highly qualified employees, in particular women PhDs and researchers, in order to counteract the current severe underrepresentation of women in this sector.
- Create or strengthen national and institutional structures to build competences on inclusion, structural discrimination, and the principles of intersectionality in HEIs, RPOs, and RFOs.
- Optimise Gender Equality Plans (GEPs) as a catalyst for gender equality and inclusiveness along research careers, mainly through comprehensive and overall monitoring and evaluation at the national level, with possible coordination in the remit of national observatories on research careers.
- Establish mechanisms in the remit of research career policies to complement general social security benefits in order to better even out any gender imbalances among researchers (e.g. additional benefits, compensations in parental leaves).
- Create national observatories to follow the careers of researchers, focusing on gender equality and inclusiveness and tracking the main obstacles observed, while involving RFOs, RPOs, and other relevant stakeholders. Investigate the overall opportunity costs<sup>8</sup> of PhDs, especially young women, dropping out of a research career.

<sup>8 |</sup> Opportunity costs: the loss of other alternatives when one alternative is chosen. In this case, this means the loss to the whole system of dropouts, by jeopardising the accumulated investment in advanced education and previous research funding for those who leave vis à vis the theoretical gains in resources saved by not funding them.

- Adopt or adapt the research career indicators developed by the OECD and the EC Rel-CO Observatory in order to monitor over the long term the full range of related issues (e.g. progression, diversity of disciplines, funding).
- Collect data and produce national statistics to support the formulation and monitoring of policies on gender+ inclusiveness in research careers and systematically provide
  them to the national and international organisations responsible for statistics and analytical studies (e.g. OECD, SHE Figures).
- Strengthen the policy focus on the participation of women in the STEM field of science and foster women's entrepreneurship.

#### **Research Funding Organisations (RFOs)**

#### RFOs should:

- Continuously improve their ability to anticipate and respond to the multiple challenges of
  inclusive research careers, working and learning together in national and international
  fora, by creating Communities of Practice, for example. A special issue is to identify and
  implement measures to overcome gender+ cultural resistance.
- Align RFOs with the new European Charter & Code for Researchers, effectively implementing its principles, regularly planning and monitoring the progress.
- Advocate common European standards for the national contexts of research careers, ensuring the same professional conditions for researchers during international mobility events, particularly with respect to the portability of social security entitlements. International mobility should not be a determining factor for progression and its duration should be as flexible as possible.
- Promote an effective policy dialogue with governments and national authorities, whose
  activity impacts the (sectoral) policies underpinning research careers, and increase policy coherence, inscribing this as framework conditions in action plans and/or translating
  them into legislation. In this dialogue, researchers and their representatives, including
  scientific and professional associations and learned societies, should be engaged as
  a success factor.
- Work closely with HEIs and require them to support underrepresented and underinvested groups in the HE Sector (attracting, opening the doors to, and retaining students), broadening the pool of potential researchers and ensuring greater inclusiveness and diversity in the two systems.
- Increase awareness, accountability, and knowledge on inclusive research careers internally
  and among all stakeholders (e.g. policymakers, social security authorities, researchers, peer
  reviewers, R&D managers, etc.). In particular, RFOs should fund studies on the subject, and
  promote the wide dissemination of results.

- Expand professionalisation opportunities and tackle precarity to achieve more inclusiveness. Encourage researchers to (re)think their careers and consider all the alternatives, offering doctoral researchers support (such as funding mentoring programs) in preparing for a career inside or outside academia, both with equal value, always adjusted to the field of knowledge.
- Develop funding mechanisms that stimulate BES to play its crucial role in absorbing highly qualified employees, in particular women PhDs and researchers, to overcome the current severe underrepresentation of women and avoid the waste of resources – and thereby to ensure competitiveness and sustainability within and across systems.
- Disseminate and promote a new generation of Gender Equality Plans to the BES and
  extend the implementation of GEPs as an eligibility criterion to this sector. A transition
  period, similar to the Horizon Europe model for the public sector (HEIs, RPOs, RFOs),
  should be considered to ensure effective implementation.
- Reward Business Enterprises that implement new scientific employment contracts ensuring gender equality and inclusiveness, and include this requirement as a tie break criterion in assessment across funding instruments.
- Change the research assessment criteria to value variety in career paths (e.g., non-linear careers), in particular due to intersectoral mobility, non-R&D work, and care responsibilities. In this way, gender equality and inclusion will be better taken into account, beyond the basic concern for parity in chairs and membership of peer review panels.
- Promote awareness raising and capacity building among reviewers, panel members, and chairs so that they can properly apply revised criteria, with a full understanding of why they should be used, and prevent shifting standards. Actively participate in the <u>CoARA</u> for more transformative practices in research recruitment and research assessment.
- Check for bias in call documents and procedures, especially in the first editions of the
  programmes, and monitor applications and success rates. For each programme implemented, RFOs should check for any possible collateral effects that could trigger new
  forms of inequality.
- Provide funding schemes to boost the participation of women in the STEM field of science and foster women's entrepreneurship.

- Establish national positive actions<sup>9</sup> or <u>disruptive measures</u> within the remit of research career policies to complement general **social security benefits** and better neutralise any gender imbalances among researchers.
- Consider ways to broaden the scope of GEPs, in RFOs and in Higher Education Institutions, towards more inclusiveness beyond gender. Attention should also be paid to gender-based violence, occurring in careers in general and in international mobility, and to the gender domain in research content.
- Acknowledge the need to develop GEP monitoring systems and contribute to an overarching perspective on GEP impact at the national level and widen the scope of their gender+ inclusiveness for funding purposes.
- Improve awareness and increase the capacity of NCPs for a more effective role and participation on GA+ issues and actions (e.g. through training programmes under GEPs).
- Ensure the production and availability of statistics on their activities in a timely, systematic, complete, comparable, and reliable manner so that it is possible to monitor multiple gender+ aspects in research careers.

## Higher Education Institutions (HEIs) and Research Performing Organisations (RPOs)

HFIs and RPOs should:

- Align with the <u>new Charter & Code</u>, incentivising the effective implementation of its principles, so that they can respond to the current challenges faced by researchers, as well as the institutions themselves, and better integrate gender+ equality and inclusiveness
- Value equality and promote inclusiveness across the whole ecosystem students, researchers, and academics – in recruitment and in career progression, as a new Europe-wide paradigm for inclusive research careers.
- Actively participate in the CoARA for more transformative practices in research recruitment and research assessment.
- 9 | 'Positive action is defined in the EU Equal Treatment Directives as specific measures to prevent or compensate for disadvantages linked to specified personal characteristics, with a view to ensuring full equality in practice. Under EU law, positive action has traditionally been seen as an exception to the principle of non-discrimination with the aim to achieve substantive equality through measures designed with the purpose to provide equal opportunities'.

Disruptive measures: can take the form of temporary special measures addressing gender imbalances and of ambitious measures addressing structures.

- Be an active part of the policy dialogue on gender+ inclusive research careers with national authorities and RFOs.
- Incentivise the creation of Communities of Practice and networking, where good practices can be shared, improving the implementation of policy guidelines in conformity with institutional diversity (overcoming the bureaucratic burden).
- Create or strengthen institutional structures to build competences on inclusion, structural discrimination, and the principles of intersectionality, and overcome knowledge and practice gaps on the issue among students, researchers, academics, and staff. PhD programmes should include a module on the Gender+ perspective in R&I.
- Invest in research career measures to professionalise research activities, based on researcher contracts as the regular legal form of employment, to avoid/remove from the outset precarity in early and all positions of a career. So that all researchers are consistently covered by social security systems (for sickness, retirement, unemployment, maternity/parental and post-maternity leave; as PhD students and post-docs).
- Acknowledge and value variety in career paths (e.g., non-linear careers) to establish
  and sustain inclusive research careers and promote training for diverse professional
  paths outside academia by introducing new approaches and new skills in accredited
  courses and programmes, always adjusted to each field of knowledge.
- Establish mechanisms within the remit of research career policies to complement general social security benefits and better neutralise any gender imbalances among researchers, and increase flexibility in work-life balance, support for combining career and care, and working conditions in general.
- Introduce mechanisms to effectively enforce a zero-tolerance strategy on gender-based violence.
- Collect data and produce institutional statistics to support the formulation and monitoring of policies on gender equality and inclusiveness in research careers in a timely, systematic, complete, comparable, and reliable manner.
- Collaborate with national observatories (or other structures that monitor careers) to follow up on the careers of researchers by focusing on gender equality and inclusiveness and tracking on observed main obstacles.

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