PROBA samfunnsanalyse

Høgskolen i Innlandet

Policies for researcher development – an international mapping

Proba memo, Project number 22094.
ISSN: 1891-8093
AG, 10 feb 2023

Policies for researcher development – an international mapping

Commissioned by the Directorate for Higher Education and Skills

Memo 2023-01

PROBA samfunnsanalyse

Innhold:

Summary

This memo documents a mapping of researcher development policies in the EU and some selected countries. We present the scope of researcher development policies and possible national policy instruments.

The results of the mapping indicate that the UK is a leader in this field, particularly in the development of standards. We have found few examples of relevant national policies in other countries, but the EU have taken several initiatives. Also, Euraxcess, a network of universities in the EEA have developed standards for researcher development in universities and many universities have voluntarily committed themselves to upholding these standards.

1 Introduction

1.1 Background and scope

Higher education institutions train and develop thousands of researchers each year. Such researchers are highly skilled and will normally hold a Masters degree and either be studying for a PhD (if they are research students) or already hold a Doctorate (if they are research staff).[1] Doctoral education is a highly personalised and intensive form of learning, with universities typically providing one-to-one or even two-to-one supervision for the development of doctoral students. This represents a massive investment in the training and development of researchers.

The Research Council of Norway estimates that around 90,000 people are involved in scientific research and development, with around 36,000 people being employed primarily as a 'researcher' or a related job title.[2] Most of these people are employed in either higher education or in research institutes. This concentrated high level human capital represents a massive national investment. The development of a more coherent national offer for managing and developing the research workforce, therefore has the potential to offer a major return on investment.

1.2 The challenge of research careers

As the knowledge economy has grown the demand for researchers, and the high level technical and analytical skills that they bring, has grown both within higher education and outside of it. Higher education research is increasingly reliant on a growing number of 'early career researchers' (doctoral candidates and post-doctoral staff). However, despite their importance this group has not always been well treated in terms of pay, conditions, access to training and development opportunity and progression. Outside of higher education many employers make use of the skills developed through doctoral study and a research career, but often with limited awareness of the qualifications and experience of those that they are employing.

Early career researchers begin their careers within a university or similar public institution. As they complete their PhDs they find themselves at an interesting and potentially vulnerable stage in their career. They are already highly skilled and engaged in a process of becoming very highly skilled in a specific technical area. Achieving this high level of skill is the result of a substantial investment of time, meaning that many feel that they have already made an occupational choice and moved some way into their career. Yet, they continue to have a relatively junior position in the hierarchy of universities where they are perceived by more senior colleagues as 'apprentices'.[3] Furthermore, university research is organised in a pyramidal structure which means that universities are unable to offer employment and career progression

[1] Euraxess. (n.d.). *New! Research profiles descriptors*. https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors

[2] The Research Council of Norway. (2021). *Science and technology indicators for Norway 2021*. https://www.forskningsradet.no/globalassets/sti-report-2021.pdf

[3] Laudel, G., & Gläser, J. (2008). From apprentice to colleague: The metamorphosis of early career researchers. *Higher Education*, *55*, 387-406. https://doi.org/10.1007/s10734-007-9063-7

to everyone that they train, while researchers typically favour and are most aware of the opportunities that exist within universities.[4]

The high, and growing, supply of researchers and relatively low, and stable, demand, from universities results in many researchers ultimately exiting higher education and related public research roles to either work in private sector research or to change careers altogether (intersectoral mobility).[5] Furthermore, many who manage to remain within higher education, achieve this through geographical or disciplinary mobility.[6] Intersectoral, geographical and disciplinary mobility all offer long term benefits for the skills available to the economy, but they require researchers to have sophisticated career management skills and to be able to negotiate often unexpected and major career transitions.[7] Such challenging career trajectories benefit from structure and support provided by both employers and by those who oversee national and European research environments.

1.3 A policy agenda on researchers' careers

In 2005 the European Union launched *The European Charter for Researchers* and the *Code of Conduct for Recruitment*.[8] This document sought to address inequities in the employment of researchers, but also argued that poor employment practices relating to this group were resulting in the mismanagement of talent. Improving support and opportunities for researchers was a potential win/win situation in which both researchers and their employers could benefit. The concept of 'career development' was at the heart of this new pan-European approach to researcher development. The argument was made that researchers should be supported to develop their skills and to pursue their careers in both higher education and industry.

Over the last 20 years this researcher development agenda has become increasingly important with 1360 organisations across Europe now endorsing the *European Charter and Code* and 690 organisations holding the more demanding *HR Excellence in Research award*, which draws on the Charter and Code principles.[9]

HK-Dir have recently been asked to develop a framework for career counselling for young researchers. To support them in this work we have undertaken a rapid evidence review on international best practice in the area. The review seeks to address the following questions:

- What is the current European policy environment (key policies, initiatives and agendas)?

---

[4] IDEA Consult. (2022). *Knowledge ecosystems in the new ERA: Using a competence-based approach for career development in academia and beyond*. European Commission.

[5] National Centre for Universities and Business. (2015). *The exchange of early career researchers between universities and businesses in the UK*. https://www.ncub.co.uk/wp-content/uploads/2015/12/The-Exchange-of-Early-Career-Researchers-between-Universities-and-Businesses-in-the-UK.pdf

[6] Balaban, C. (2018). Mobility as homelessness: The uprooted lives of early career researchers. *Learning and Teaching*, 11(2), 30-50. https://doi.org/10.3167/latiss.2018.110203

[7] Fisher, J. J., & James, J. L. (2022). Know the game: insights to help early career researchers successfully navigate academia. *Placenta*, *125*, 78-83. https://doi.org/10.1016/j.placenta.2021.10.013

[8] Euraxess. (n.d.). *The European Charter and Code for Researchers*. https://euraxess.ec.europa.eu/jobs/charter

[9] Euraxes. (n.d.). *HR Excellence in Research award*. https://euraxess.ec.europa.eu/jobs/hrs4r

- What evidence exists on what effective researcher development provision looks like?
- How do countries oversee, manage and quality assure the researcher development provision that is available? How is the autonomy of universities recognised while still making national progress on these issues?
- How are different stakeholder voices included in the development of policy and provision in this area?

1.4 Career guidance and researcher development

HK-Dir have a strong track record on the development of the Norwegian career guidance system. Given this it is understandable that the question of researcher development has initially been viewed through the lens of career guidance. Career guidance can be defined as follows.

> *Career guidance supports individuals and groups to discover more about work, leisure and learning and to consider their place in the world and plan for their futures…Career guidance can take a wide range of forms and draws on diverse theoretical traditions. But at its heart it is a purposeful learning opportunity which supports individuals and groups to consider and reconsider work, leisure and learning in the light of new information and experiences and to take both individual and collective action as a result of this.'*[10]

Such an intervention would appear to be ideal to support early career researchers to manage their careers. However, a study of research, policy and practice in this area frequently reveals that while career guidance is not completely absent from discussion, the alternative terminology of *researcher development* is more usually used. Researcher development, of the kind set out in the European Charter and Code, can be understood to have the following elements.

[10] Hooley, T., Sultana, R. G., & Thomsen, R. (2017a). The neoliberal challenge to career guidance—Mobilising research, policy and practice around social justice. In T. Hooley, R. Sultana, & R.G. Thomsen (Eds.) *Career guidance for social justice: Contesting neoliberalism*. Routledge, p.20.

Figure 1. Key elements of national research development initiatives

Legal and political	Changing the stuctures and rules that govern the careers of researchers
Funding and recognition	Changing the way in which research is funded and research success or excellence is recognised
Human resource management	Changing the HRM processes within universities and other employers of researchers to improve progression opportunities
Management and mentoring	Providing researchers with more support through their line management and other local forms of support
Training and development	Increasing the availability of personal, professional and technical training and development
Career guidance career development services	Providing career support including the provision of careers information, one-to-one career counselling, access to non-academic employers, short courses and interventions. These are not necessarily provided through institutional careers services or by careers professionals.

While it would be possible to view all the elements set out in figure 1 within the framework of 'career guidance' it stretches the normal definition of the concept considerably. Researcher development is strongly engaged with career development, but it delivers this not only through career guidance interventions, but also through legal, political, and structural changes, organisational development and the active development of human capital, including the technical skills required for discipline-based research.

Such a recognition has at least two major implications for the work of HK-Dir in this area. Firstly, it raises a question of boundaries, asking which aspects of researcher development in Norway are HK-Dir seeking to influence, who are the other stakeholders (e.g. the Research Council of Norway), and what approaches to influence should the organisation take (see section 1.6). Secondly, it raises the question of language, should HK-Dir seek to introduce the language and competences used in Norway's wider career guidance system (karriereveiledning, karrierekompetanse etc.), adopt an approach more specific to the researcher group, or take a mixed approach.

1.5 Methodology

In this project, we have used literature, document analysis and interviews to map researcher development policies in the EU and some selected countries. The scope of the study is policies to promote systematic career development for researcher. Career development may include career counselling or guidance, but also other tools and activities. There is no standard definition of the relevant means. "The Researcher Development Framework" (paragraph 3.2.3) is one example illustrating the wide scope of relevant tools and activities.

As the project is small there are limits to the level of depth that we can provide. The ambition is to identify examples of national policies for researcher development, and to identify the broader European framework within which researcher development takes place.

The identification of interviewees was based on a "snowball" method: We have interviewed known experts in the UK and employees at the Norwegian Research Council (NCR) and Universities Norway and asked them for suggestions on others who might give useful information. We also asked the interviews for suggestions on documents for our review.

In the interviews, we asked for information on countries that have developed national policies for researcher development and/or are leaders in this area. We knew in advance that the UK is a leader. We also decided at the onset that we should include at least one Nordic country (because Nordic countries tend to have similar policy environments). Our (tentative) selection was:

- The UK
- Germany
- Spain
- The Czech Republic
- Denmark

We included Germany because of a longstanding national effort to ensure "excellence award" in EurAxess for German institutions (see 2.4) Spain was included because they have many institutions with "excellence" status in EurAxess, see paragraph 2.3. We included The Czech Republic because they have received EU funds to strengthen researcher development.

We have however, received no information from Spain and the Czech Republic. Later in the project, it was suggested that the Netherlands should be included. We have received some information from the Netherlands.

1.6 Typology of policies and policy-makers

The focus of this report is national policies on the career development of early career researchers. Because the EU is important in this field and because there are elements of "self-rule" in the university sector, we also present main efforts by the EU and the higher education and research institutions as collectives.

In the EU and in Norway, there are some institutions and policy instruments dedicated to either higher education or research. Because many institutions engage in both higher education and research, there is an overlap in the institutions and activities affected by the different policy actions. In the area of researcher development this can lead to some confusion and blurred boundaries about who has responsibility. One may also see policies that affect both research and higher education.

A commonly used typology of policy instruments is:[11]

- Carrots (economic incentives)
- Sticks (legal instruments)
- Sermons (soft governance, pedagogical instruments)

[11] Bemelmans-Videc, M. L., Rist, R. C., & Vedung, E. O. (Eds.). (2011). *Carrots, sticks, and sermons: Policy instruments and their evaluation*. Transaction Publishers.

Table 1: Typology of policies. Examples of thinkable policies

	Legal instruments	Economic incentives	Soft governance
EU			
Education/university operations		Technical support financing	Developing frameworks, e.g. the Charter and Code. Compliance follow-ups
Research		Research funding conditions	Networks/transfer of knowledge
National			
Education/university operations	Regulate. Mandating career development services	Financing of institutions (condition for funding universities, etc.)	The Concordat Develop "Best practice".
Research	Regulate. Mandating career development services	Research funding conditions	Networks/transfer of knowledge

This typology is also used in Norway.[12]

Combining the typology of policy-makers and instruments, results in the typology in Table 1.

The EU has substantial research funding schemes but is not involved in the funding or regulation of (other activities of) higher education institutions. The EU can promote career developments through the conditions for research funds, through technical support (specific development projects), and various forms of soft governance.

National authorities may use legal instruments to enforce career development for researchers. They may also introduce conditions on research funding or on government funding of the higher education institutions to promote career development for researchers. Furthermore, government institutions may promote career development practices through various forms of recommendations, efforts to create awareness, etc.

In Norway as well as many other countries, the universities have formed organisations. These organisations may produce services of common interest for the institutions, and they play a role in dialogue with government institutions. We have also asked for information of relevant initiatives from such organisations.

Finally, individual institutions can also make organisational decisions about how to manage the researcher development agenda, in response to all of the three levels outlined above.

[12] Økonomiske, juridiske og pedagogiske virkemidler

2 Researcher development in Europe

2.1 The European Research Area (ERA)

In 2000, the EU launched the idea of the European Research Area (ERA) to create a single, borderless market for research, innovation and technology across the EU. This has recently been refreshed with 20 new policy areas identified to shape its development in the period 2022-2024.[13] These policy areas include the following areas that potentially influence the development of research careers:

> *(3) Advance towards the reform of the Assessment System for research, researchers and institutions to improve their quality, performance and impact.*
>
> *(5) Promote gender equality and foster inclusiveness.*
>
> *(13) Empower Higher Education Institutions to develop in line with the ERA, and in synergy with the European Education Area.*
>
> *(18) Facilitate a national process or era policy vehicle preparation for identification of running or planned measures contributing to the implementation of era*
>
> *(19) Establish an efficient and effective era monitoring mechanism*

It also critically includes a policy specifically on research careers.

> *(4) Promote attractive and sustainable research careers, balanced talent circulation and international, transdisciplinary and inter-sectoral mobility across the ERA.*

This objective seeks to improve the working conditions of researchers, strengthen their skills, employability, increase the attractiveness of research careers and the recognition of the research profession and promote inter-sectoral and geographical mobility.

This means that research careers are at the heart of the framework for the development of research in Europe. The Commission plans to release a 'toolbox' of further support for researchers' careers by the end of 2024.[14] Meanwhile countries are expected to consider this focus on researchers' careers as they develop their plans and systems for research, and they are expected to support higher education institutions to make the changes that are required. Finally, they are required to monitor progress in in ways that enable them to manage the alignment of their national systems with the ERA.

---

[13] European Commission. (2021). *European Research Area policy agenda*. European Commission. https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

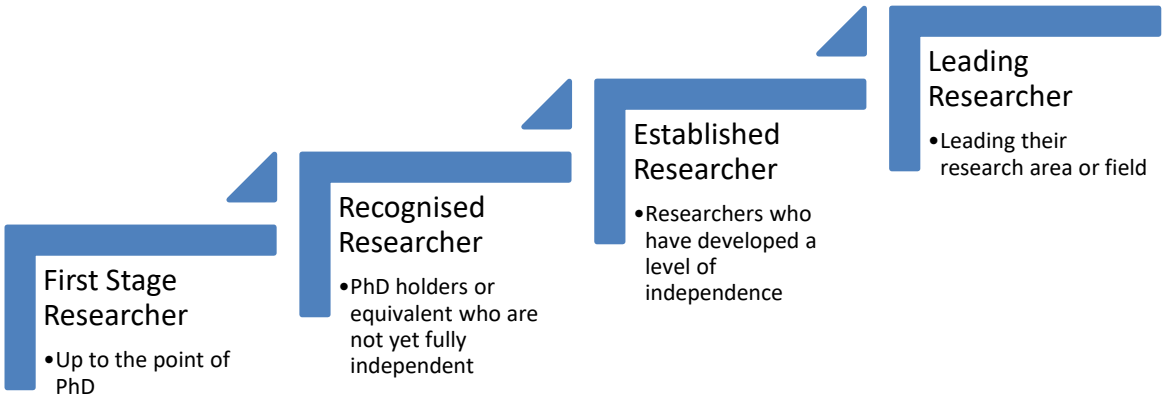
[14] IDEA Consult. (2022). *Knowledge ecosystems in the new ERA: Using a competence-based approach for career development in academia and beyond*. European Commission. https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en

The rest of this section provides some commentary on the main mechanisms and instruments provided Europe to advance these policy aims.

2.2 The European Framework for Research Careers

The European Commission has set out four broad profiles for researchers corresponding to different career stages.[15]

Figure 2. The European Framework for Research Careers



In this paper we are mainly focusing on the first two career stages, but many of the approaches and policies set out also have benefit for researchers at all career stages.

2.3 Euraxess

Euraxess is the European portal for researchers' careers.[16] While its primary audience is researchers themselves, for whom it provides European level information on jobs, funding and career development opportunities, Euraxess also provides information for the important secondary audiences of policymakers, national organisations involved in the management and development of research and higher education institutions.

Researchers in Norway should be made aware of Euraxess and encouraged to make use of the resources that it offers to support their career development. At a more strategic level, Euraxess also offers resources that can support higher education institutions and other research employers to develop their researcher development practice.

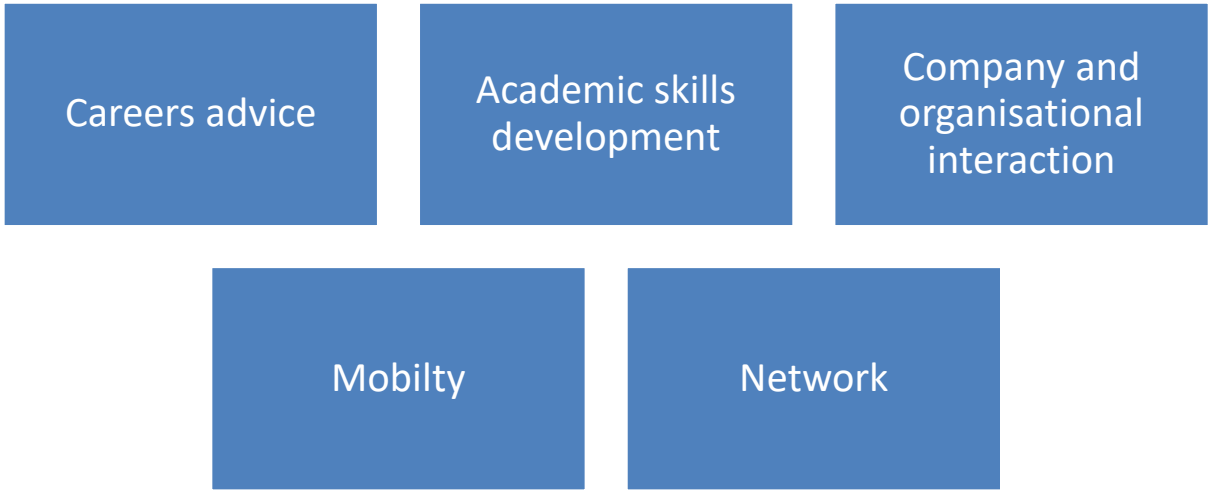
---

[15] European Commission. (2011). *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

[16] Euraxes, https://euraxess.ec.europa.eu/.

At the heart of this is The REFLEX framework, which sets out key areas of focus and an approach for institutions to develop the careers of their researchers.[17] This framework highlights five main areas that institutions should develop their provision in.

Figure 3. The REFLEX framework



Euraxess then provides a detailed schema of the features of practice that might underpin each of these areas. So, in relation to 'careers advice' institutions are encouraged to provide access to a careers centre or careers coach, employ a specialist to focus on the development of researcher careers, develop a performance review approach that explicitly addresses career development and so on. In relation to 'company and organisational interaction' institutions are expected to provide opportunities for researchers to speak to and visit non-academic employers, increase their awareness of the wider labour maket and have access to support for considering how to move outside of academia. Euraxess also provides an additional resource to support employer engagement and encourage researchers to consider inter-sectoral mobility.[18]

Euraxess is the core resource for all issues related to European researcher development and so it is important that HK-Dir engages with it closely as it moves the agenda forwards in Norway. In a related issue there may also be a case for examining the information about Norway on the site and updating it in the light of recent developments.

2.4 The Charter and Code for Researchers

The EU's interest in researcher development was formalised with the publication of the European Charter and Code for Researchers in 2005.[19] This was made up of the Charter which specifies the roles, responsibilities and entitlements of researchers as

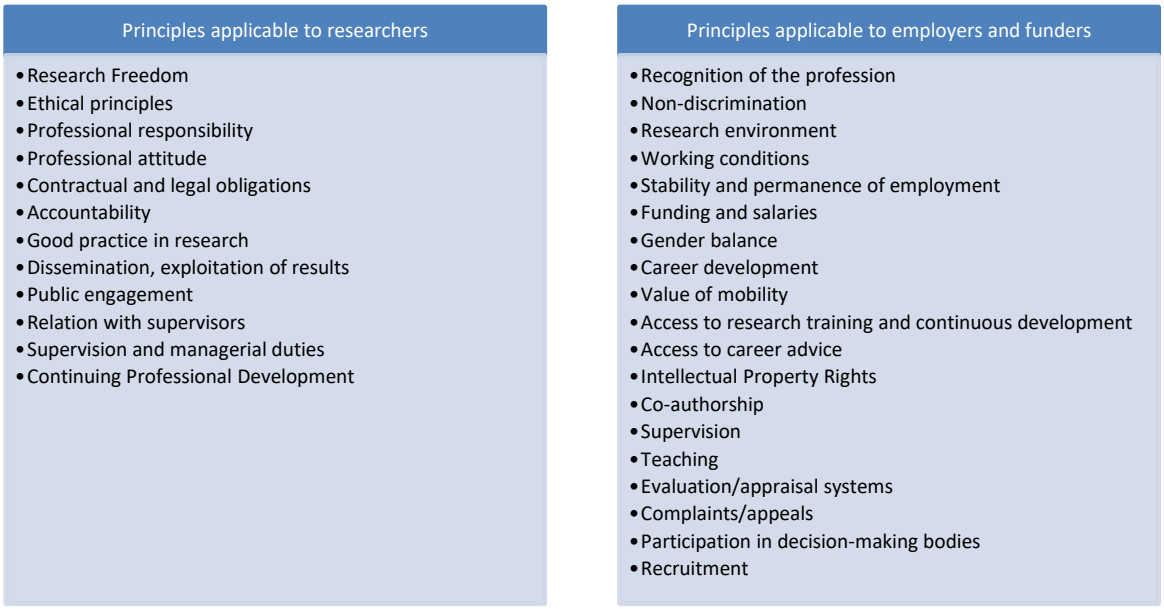
[17] Euraxess. (n.d.). *Reflex. Researcher career development scheme*. https://euraxess-reflex.saia.sk/reflexapp/

[18] Euraxess. (n.d.). Interact: Academic reaching out to business. https://euraxess.ec.europa.eu/career-development/organisations/resources-and-tools/engagement-tool

[19] Euraxess. (n.d.). The European Charter and Code for Researchers. https://euraxess.ec.europa.eu/jobs/charter-code-researchers

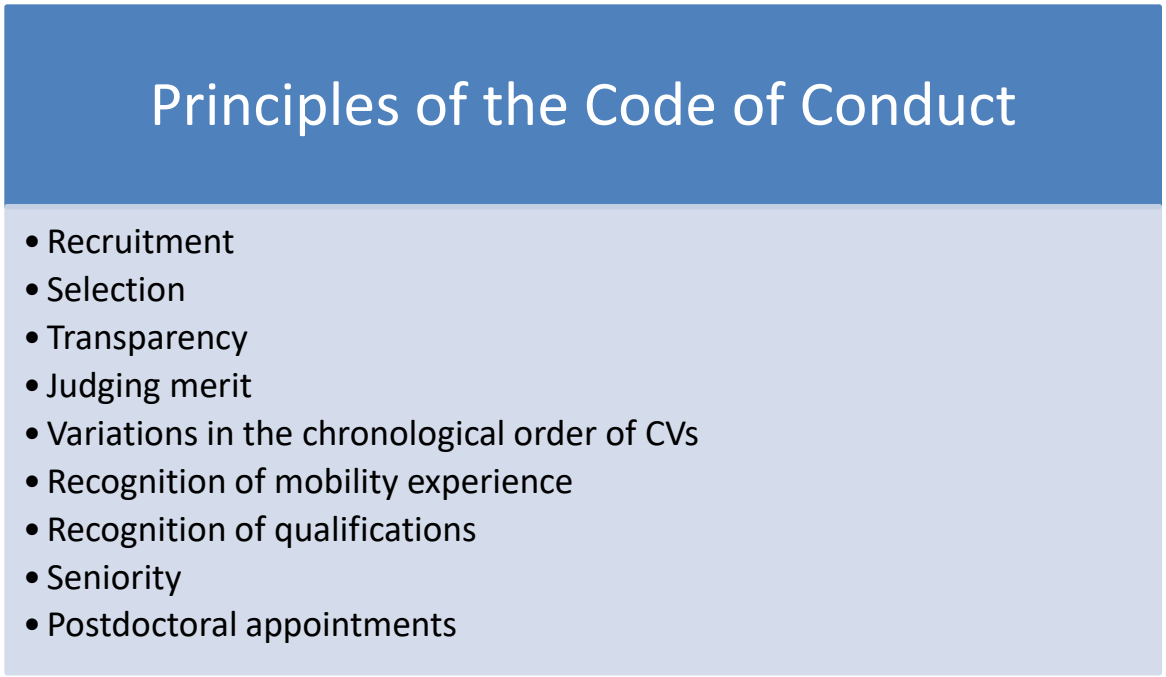
well as of employers and funders of researchers. It constitutes a framework for researchers, employers and funders which invites them to act responsibly and as professionals within their working environment, and to recognise each other as such.

Figure 4. Principles of the European Charter for Researchers



Allied to this is The Code of Conduct for the recruitment of researchers which consists of a set of general principles and requirements that should be followed by employers and/or funders when appointing or recruiting researchers.

Figure 5. Principles of the Code of Conduct



The principles of the Code of Conduct emphasise open, transparent and fair recruitment processes. The aim is to identify candidates by merit and to avoid discriminatory practices. They also seek to endorse the value of mobility, to recognise

a broad range of qualifications and experience and to provide the foundations for careers in which researchers can progress.

So far 1370 organisations across Europe have endorsed the Charter and Code including the following 24 organisations in Norway.[20]

- Inland Norway University of Applied Sciences, Norway
- Institute of Marine Research (Havforskningsinstituttet), Norway
- Institute of Transport Economics, Norway
- Nord University (previously called University of Nordland), Norway
- Norwegian University of Life Sciences, Norway
- NTNU Norwegian University of Science and Technology, Norway
- Oslo Metropolitan University, Norway
- Peace Research Institute Oslo (PRIO), Norway
- SINTEF, Norway
- The MF Norwegian School of Theology, Norway
- The Norwegian Association of Higher Education Institutions, Norway
- The Oslo Metropolitan University (previously called Oslo University College), Norway
- The Ragnar Frisch Centre for Economic Research, Norway
- The Research Council of Norway (RCN), Norway
- The University of Agder, Norway
- The Volda University College, Norway
- UiT The Arctic University of Norway, Norway
- University of Agder, Norway
- University of Bergen, Norway
- University of Oslo, Norway
- University of South-Eastern Norway, Norway
- University of Stavanger, Norway
- University of Tromsø, Norway
- Western Norway University of Applied Sciences, Norway

[20] Euraxess. (n.d.). Declarations of endorsement of Charter & Code. https://euraxess.ec.europa.eu/jobs/charter/declaration-endorsement

Signing up to the Charter and Code is a light touch process which requires organisations to publicly state their support for the principles contained within the Charter and Code and commit to implementing them within their organisation. At present there is no monitoring beyond this, which raises the question as to whether HK-Dir has a role in fostering engagement with the *Charter and Code* and exploring what difference it makes when organisations sign up to it.

2.5 The HR Excellence in Research Award

The Commission has also developed a more robust process which builds on the Charter *and* Code, but asks for a more substantial commitment from institutions when they sign up to it. This is called the HR Excellence in Research Award (HRS4R).[21]

The HRS4R requires institutions to publish a gap analysis and action plan setting out how they meet or are working towards meeting the 40 principles of the Charter and Code. This is then assessed through a peer review process coordinated by the European Commission. Once the HRS4R is awarded institutions must send an internal review to the Commission after two years and then after every three years. This means that those organisations that hold the HRS4R have a current commitment to researcher development and that they have been judged by external observers to have good practice. However, it is also worth noting that the HRS4R is a document-based review and does not include mechanisms to validate what is claimed or assess the implementation or impact of any plans.

There are 694 organisations across Europe who have received the HRS4R, including 13 from Norway as follows.

- Inland Norway University of applied Sciences (received 20/01/2020)
- Institute of Transport Economics (17/07/2021)
- Norwegian University of Life Sciences (UMB) (25/01/2013)
- NTNU Norwegian University of Science and Technology (10/03/2010)
- Oslo Metropolitan University (14/03/2016)
- Peace Research Institute (01/04/2019)
- Research Council of Norway (19/01/2011)
- The University of Agder (25/11/2013)
- UiT The Arctic University of Norway (23/08/2012)
- University of Bergen (05/12/2019)
- University of Oslo (31/05/2010)
- University of South-Eastern Norway (12/05/2020)
- University of Stavanger (25-08-2017)

As with the signatories of the *Charter and Code*, the existence of this group of institutions that hold the HRS4R in Norway offers an opportunity for HK-Dir. Should the organisation explore the practices that these 13 institutions have implemented and examine whether they are different from other institutions in

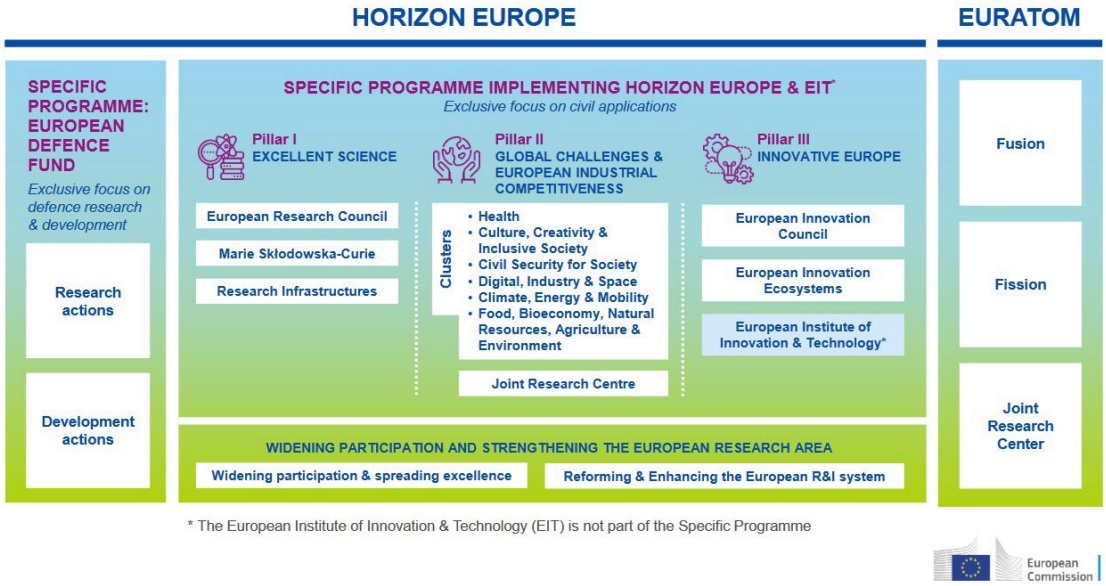
[21] Euraxess. (n.d.). Human resources strategy for researchers (HRS4R). https://euraxess.ec.europa.eu/node/5765/

Norway? And does the HRSR4R therefore offer a mechanism that could be used to move forward practice in this area.

2.6 European research funding: Horizon Europe

Horizon Europe is The EU's key funding programme for research and innovation. The budget for the 2021-27 period is close to 100 billion EUR. It has three pillars (se illustration).

Figure 6. The Horizon Europe programme



Pillar 1 is called "Excellent science". It includes financing of "Frontier research" (not limited to the clusters specified in Pillar 2), the strengthening of research infrastructures, and "Marie Skłodowska-Curie Actions" (MSCA). The latter entails "Equipping researchers with new knowledge and skills through mobility and training". This includes financing schemes for young researchers and actions on researcher development. Career counselling is one focal point.

In the invitation to apply for MSCA Cofund 2022 (grants for doctoral and postdoctoral programmes), the following condition applies for successful applications:

> *A Career Development Plan must be jointly established by the supervisor and each recruited researcher upon recruitment. In addition to research objectives, this Plan comprises the researcher's training and career needs, including training on transferable skills, teaching, planning for publications and participation in conferences and events aimed at opening science and research to citizens. The Plan must be established at the beginning of the recruitment and should be revised (and updated where needed) within 18 months.*

In relation to the doctoral programme, it is stated that:

Particular attention is paid to the quality of supervision and mentoring arrangements as well as career guidance.

In another example applicants to the COST (European Coordination in Science and Technology)[22] programme are expected to provide evidence of how the funding will support the career progression of young researchers and to allocate funding to this purpose.

As these examples show, the researcher development agenda has been mainstreamed into all applications for European research funding. Applicants for such funding are required to demonstrate that they have considered the human resource issues associated with the project and in many cases to particularly highlight how funding will support the development of early career researchers. However, again it is not clear how far these requirements actually drive practice within universities.

2.7 European Competence Framework for Researchers (ResearchComp)

The strong focus on researcher development in European policy is underpinned by human capital theory and the believe that the development of the *skills* of researchers is a critical element of the effectiveness of European research. In the *European Charter for Researchers* employers and funders are encouraged to provide researchers with 'the opportunity for professional development and for improving their employability through access to measures for the continuing development of skills and competencies'.[23]

The strong focus on skills has led some commentators to reflect on what skills are particularly important for researchers to enable them to develop their careers. The European Science Foundation (ESF) recommended that the European Commission develops a pan-European framework setting out the skills that researchers need and providing a theory of change for how these skills should be developed.[24] It was recommended that the proposed framework drew on the UK's Researcher Development Framework (RDF) (see section 3.2.3).

The ESF's trial of a pan-European framework for researchers' skills made apparent some general deficiencies in the European systems with regard to skills and career development of researchers. There are big differences between countries in their overall awareness and readiness to engage and invest in the general development and career development of researchers. Furthermore, there is a real demand among researchers for a more structured approach towards researchers' professional development and active career planning. This issue has been identified in a range of international surveys of researchers in which respondents identify the importance of career and skills development to help

[22] COST, https://www.cost.eu/

[23] Euraxess. (n.d.). *The European Charter for Researchers*. https://euraxess.ec.europa.eu/jobs/charter/european-charter

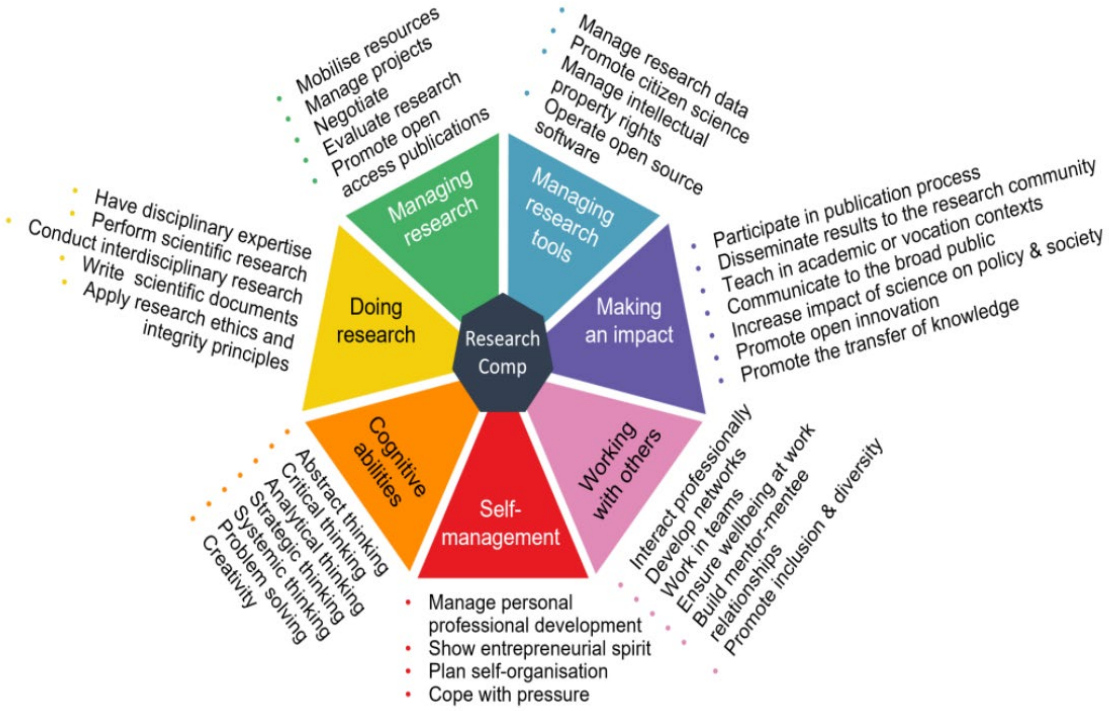
[24] European Science Foundation. (2012). *Developing research careers in and beyond Europe: Enabling – Observing – Guiding and Going Global*. ESF. https://www.esf.org/fileadmin/user_upload/esf/MO_Developping_EU-careers_Report_2012.pdf

them to manage their careers inside and outside of academia.[25] Our experience from conducting this study is that these issues remain true, with practice variable and demand for change from researchers still high.

Without claiming representativeness, the testing of the RDF in different European settings gave encouraging results in overcoming some of the identified deficiencies and in progressing towards a shared understanding of the skills and attributes that characterise modern researchers. Furthermore, the RDF proved to be a solid basis for making researchers reflect on their skills and attributes and on their career aspirations in general. It provides an important potential to support the professional development of researchers in any national or institutional environment.

While the recommendations made by the ESF were not taken forward by the European Commission, interest in the RDF continued to grow, with several pilots in different institutions and countries utilising or adapting this framework.[26] This has led to the recent proposition of a new *European Competence Framework for Researchers* (ResearchComp).

Figure 7. ResearchComp



[25] Christian, K., Johnstone, C., Larkins, J., Wright, W., Doran, M.R. (2021) Research culture: A survey of early-career researchers in Australia. *eLife,* 10:e60613. https://doi.org/10.7554/eLife.60613; : Skakni, I., Maggiori, C., Masdonati, J., & Akkermans, J. (2022): Ready for careers within and beyond academia? Assessing career competencies amongst junior researchers. *Higher Education Research & Development*, https://doi.org/10.1080/07294360.2022.2120855; Woolston, C. (2017). Graduate survey: A love–hurt relationship. *Nature,* 550, 549–552. https://doi.org/10.1038/nj7677-549a

[26] IDEA Consult. (2022). *Knowledge ecosystems in the new ERA: Using a competence-based approach for career development in academia and beyond*. European Commission.

ResearchComp remains at an early stage, but the fact that its development was funded by the European Commission and that it builds on several calls for the creation of such a framework, demonstrates a clear direction of travel.

This raises important questions for Norway, including whether it is important for the country to have a skills framework for researchers, whether such a framework can usefully be imported from the European level or whether it should be developed at the national level and how such frameworks might interact with existing Norwegian framework such as the karrierekompetanse.

3 National approaches to researcher development

3.1 Introduction

Different countries have taken different approaches to the development of researchers which reflect their different cultures and traditions of research and higher education delivery. Differences also reflect political factors as well as questions of resourcing. As discussed above, those located in Europe, are operating within the framework of overarching European policies and funding approaches.

Euraxess provides a series of national portals which each provide an overview of the research system and the researcher development opportunities available in European and some EU border countries.[27] There are also some additional portals for other countries beyond the immediate neighbourhood of Europe. These portals are primarily aimed at researcher considering moving to a different country, can the quality of the information provided is variable, but it does provide a useful starting point for understanding arrangements in different countries.

There is also some academic research looking at the development and implementation of researcher development initiatives in a range of different countries. These include India, Malaysia, the Netherlands and the UK.[28]

Empirical research on the support available for researchers' careers across Europe suggests that it is patchy with most researchers receiving little or nothing in the way of support.[29] Norway performs reasonably well, with slightly under half of researchers reporting that they can access training and support.

In this section we explore the researcher development systems in the UK, and then present the findings on some other selected countries.

3.2 The UK

3.2.1 Background

The UK has the longest history of investment in researcher development and offers a wide range of useful examples of practice.

Over 20 years ago, the UK government published a report (the Roberts Review) highlighting the wasted resource of researchers in UK higher education and

[27] Euraxess. (n.d.). Euraxess around the world. https://www.euraxess.nl/choose-your-country

[28] Dash, D.P. (2015). Enacting a developmental niche for researchers: Lessons from research education initiatives in India and Malaysia. *International Journal for Researcher Development*, 6(2), 144-164. https://doi.org/10.1108/IJRD-08-2014-0022; Speelman, C. P. (2021). Development support of early career researchers in the Netherlands: Lessons for Australia. *SAGE Open*, 11(3), 21582440211047564. https://doi.org/10.1177/2158244021104756

[29] IDEA Consult. (2022). *Knowledge ecosystems in the new ERA: Using a competence-based approach for career development in academia and beyond*. European Commission.

research institutes.[30] It noted that the UK was training and developing large numbers of researchers, but, particularly in the more junior ranks, that these staff were not being well recognised, that they often experienced precarious careers, that it was difficult for them to transition out of higher education into other sectors where their skills could be used and that there was little dedicated and formal support for their personal and professional development.

Following the Roberts Review the UK began a programme of policy development and investment (initially £20 million annually) to improve the training, development and career management of researchers in the UK system.[31] The concept of 'career development' was at the heart of this new researcher development initiative. The UK invested in new career routes, in the gathering of data on researchers, the researcher experience and research careers, and in increased training and career support for this cohort. This frequently involved universities employing new specialist staff (researcher developers) and in funding specialists within the institutional careers service to work with research students and staff.

Our research in this project revealed that the UK is the acknowledged global leader in this area. It has invested heavily in this agenda and seems to have successfully embedded it into the practice and policies of research funders and employers.

3.2.2 The Concordat

The new system that developed out of the Roberts Review in UK higher education has been enshrined in a 'Concordat to support the career development of researchers' (initially drafted in 1996, revised and extended in 2008 and updated in 2019).[32] The Concordat is a high level and primarily voluntary agreement that higher education and research institutions, research funders, the managers of researchers and researchers themselves are encouraged to sign up to.[33] It sets out detailed principles and practices that should guide all of the main actors in the research environment. These are organised under the following headings.

- Excellent research requires a supportive and inclusive research culture
- Researchers are recruited, employed and managed under conditions that recognise and value their contributions
- Professional and career development are integral to enabling researchers to develop their full potential

---

[30] Roberts, G. (2001). *SET for success. The supply of people with science, technology, engineering and mathematics skills*. https://webarchive.nationalarchives.gov.uk/ukgwa/+/http:/www.hm-treasury.gov.uk/d/robertsreview_introch1.pdf

[31] Vitae. (2022). *A brief history of researcher development in the UK*. https://www.vitae.ac.uk/policy/a-brief-history-of-researcher-development-in-the-uk

[32] Vitae. (2021). *Evolution of the Concordat*. https://www.vitae.ac.uk/policy/concordat/policy/concordat/background

[33] Concordat strategy group. (2019). The Concordat to support the career development of researchers. https://researcherdevelopmentconcordat.ac.uk/wp-content/uploads/2022/01/Researcher-Development-Concordat_Sept2019-1.pdf

Institutional signatories to the Concordat have the following responsibilities.[34]

- Raise the visibility of the Concordat and champion its principles within their organisation at all levels.
- Identify a senior manager champion and associated group with relevant representation from across the organisation with responsibility for annual review and reporting on progress.
- For organisations employing researchers, ensure that they are formally represented in developing and monitoring organisational efforts to implement the Concordat Principles.
- Undertake a gap analysis to compare their policies and practice against the Concordat Principles.
- Draw up and publish an action plan within a year of signing the Concordat.
- Set up processes for systematically and regularly gathering the views of researchers they fund or employ, to inform and improve the organisation's approach to and progress on implementing the Concordat.
- Produce an annual report to their governing body or equivalent authority, which includes their strategic objectives, measures of success, implementation plan and progress, which subsequently is publicly available.

As such the Concordat process in the UK is a voluntaristic and developmental one in which all stakeholders are encouraged to publicly share their practice and to commit to a process of ongoing development. However, the requirements to undertake regular review, to publish plans and to report into the institutions' governance structures create a framework, that if adhered to, provides a robust approach to quality improvement, if not to normative standards of delivery.

Most major research funders, national bodies and key national stakeholders in the UK have signed up to the Concordat.[35] Over 100 universities and research employers (including most of the large research-intensive universities) have also signed up to the Concordat.

3.2.3 The Researcher Development Framework (RDF)

At the level of practice, the UK has developed a framework for the skill and career development of researchers called the *Researcher Development Framework (RDF)*.[36] The RDF was introduced in 2010 and has received positive

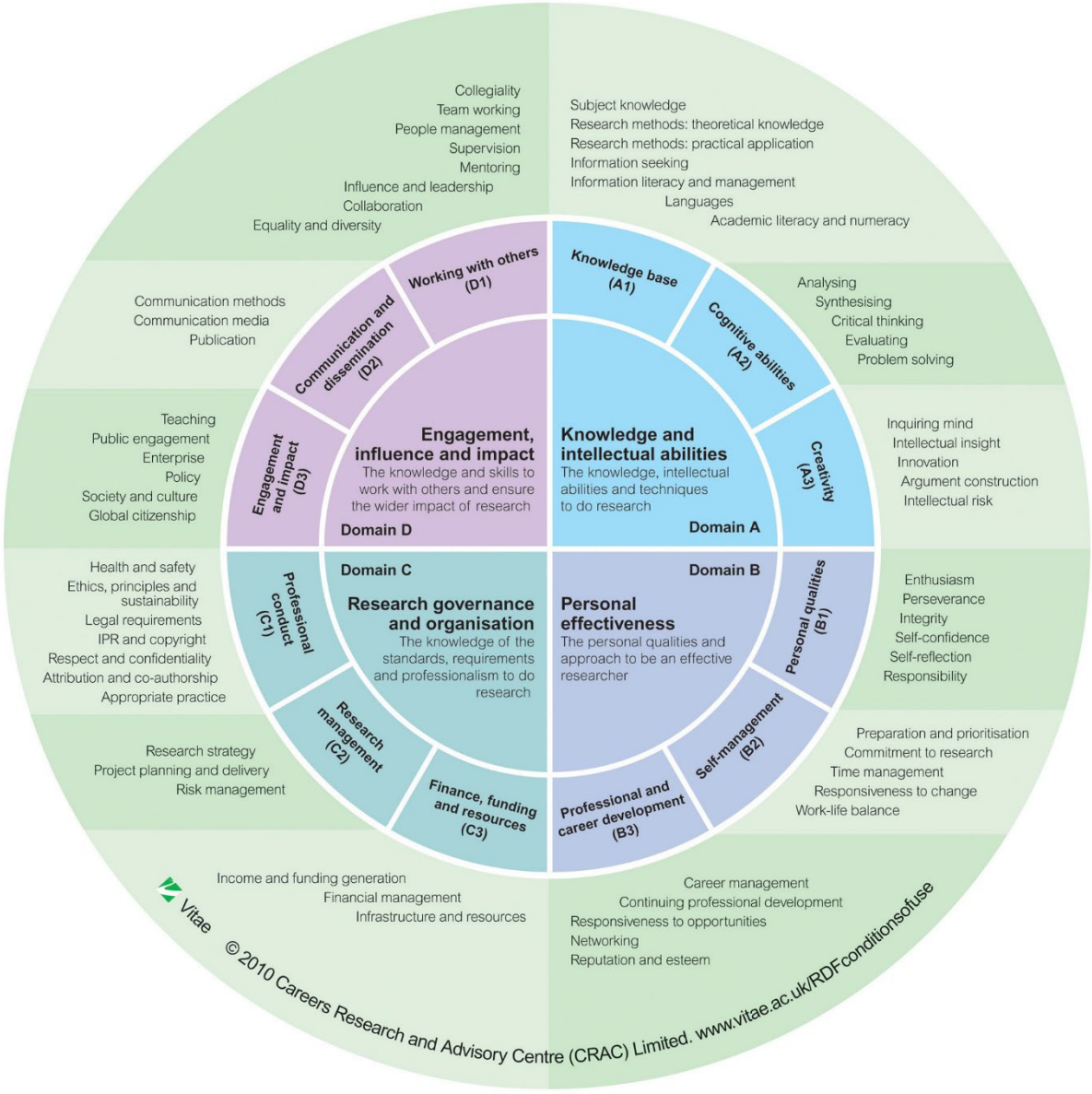
[34] Commit to the Concordat. https://researcherdevelopmentconcordat.ac.uk/commit-to-the-concordat/

[35] The Concordat. (n.d.). *Signatories*. https://researcherdevelopmentconcordat.ac.uk/

[36] Vitae. (n.d.). Researcher development framework. https://www.vitae.ac.uk/vitae-publications/rdf-related/researcher-development-framework-rdf-vitae.pdf/view

evaluations.[37] It defines the key areas of skill development for researchers, and therefore the outcomes of the researcher development process, as follows.

Figure 8. The Researcher Development Framework



The articulation of this framework of learning outcomes for researcher development programmes create some clarity about the boundaries of the researcher development agenda. It has been influential in several countries beyond the UK including Canada[38]. The European ResearchComp (see section

[37] Bray, R. & Boon, S. (2011), Towards a framework for research career development: An evaluation of the UK's Vitae Researcher Development Framework. *International Journal for Researcher Development*, 2(2), 99-116. https://doi.org/10.1108/17597511111212709

[37] University of Bath. (n.d.) *Careers Service support for researchers*. https://www.bat

[38] Nowell, L., Dhingra, S., Kenny, N., Jacobsen, M., & Pexman, P. (2021). Professional learning and development framework for postdoctoral scholars. *Studies in Graduate and Postdoctoral Education*, 12(3), 353-370. https://doi.org/10.1108/SGPE-10-2020-0067

2.7) has also been strongly influenced by the RDF. The UK is unlikely to abandon the RDF even if ResearchComp becomes better implemented across Europe.

3.2.4 Researcher development practice

Researcher development is now well embedded into most UK universities and public research funders. It is typical for institutions to have dedicated staff focused on researcher development, to run training and professional development programmes for researchers and to offer researchers some representation in decision making structures.

Most institutions are operating within the broad framework of the Concordat and organising their programmes to meet the skills outlined in the RDF. The following brief case studies provide some examples of how elements of researcher development are delivered in a range of UK universities.

> ***The University of Bath*** *provides tailored careers support for doctoral students and research staff through its institutional careers services.*[39] *This includes the provision of dedicated careers information, online career assessments, one-to-one career guidance and workshops. This service is available to both postgraduate researchers and postdoctoral staff.*
>
> ***The University of Cambridge*** *has developed a 'postdoctoral academy' which provides post-doctoral researchers in the University with a clear focus.*[40] *The postdoctoral academy works with researchers through four pillars of activity: information - bringing postdocs the information they need, when they need it; community - fostering a sense of belonging for all postdocs; advocacy - working with the community to solve issues; and professional development - helping postdocs develop for their current role and beyond.*
>
> ***The University of Reading*** *offers a formal Researcher Development Programme delivered through its graduate school.*[41] *This works with researchers to develop their knowledge and intellectual abilities, personal effectiveness, research governance and organisation, and engagement, influence and impact as well as developing their skills in teaching and learning. Researchers are required to complete a training needs analysis to identify areas for development and then have the opportunity to attend a wide range of face-to-face workshops*

h.ac.uk/guides/careers-service-support-for-researchers/

[39] University of Cambridge. (n.d.). *Postdoc academy*. https://www.postdocacademy.cam.ac

.uk/about-postdoc-academy

[40] University of Reading. (n.d.) Reading researcher development programme.

"https://www.reading.ac.uk/graduate-school/training-and-development/reading-researcher-development" https://www.reading.ac.uk/graduate-school/training-and-development/reading-researcher-development

[41] University of Strathclyde. (n.d.). Postgraduate research researcher development.

and online training. The programme is delivered by a mix of dedicated research development specialists and wider academic staff.

***The University of Strathclyde** has organised its researcher development programme through a formally accredited postgraduate certificate.[42] Most doctoral researchers at the University are required to complete the PG Certificate in Researcher Professional Development which recognises and rewards the wide array of skills and experiences that postgraduate research students achieve during their PhD research.*

3.3 Other countries

We have approached institutions in several countries with request for information on initiatives to promote career counselling and development in their countries. It has been difficult to identify national experts on researcher development in many of the countries, with those responsible for the central administration of research funding or higher education policy, often reporting little knowledge about researcher development. As a result few of the contacts have provided information.

We have also reviewed selected relevant documents on policies and strategies, searching for information on initiatives to promote career counselling and developments.

Our impression is that there is some focus on career development and counselling, but that outside the EU institutions and the UK there are few national or cross-institutional initiatives. It appears that tools for researcher development are designed and implemented within the individual higher education and research institutions.

3.3.1 Germany - research funding

The Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) is the largest research funding organisation and the central self-governing body for research in Germany. On DFGs webpage, the following text is included under the headline: “Principles of Effective Career Support in Academia”:

DFG … attaches great importance to promoting researchers at an early stage of their career and has established this as a statutory objective. Through its activities and funding instruments, it provides stimuli for research-oriented and career-friendly structures, plannable career paths, competitive remuneration and resources, equal opportunities and the compatibility of work and family.

…….

HYPERLINK "https://www.strath.ac.uk/studywithus/postgraduateresearch/researcherdevelopment/" https://www.strath.ac.uk/studywithus/postgraduateresearch/researcherdevelopment/

[42] Mazmanian, P.E., Coe, A.B., Evans, J.A., Longo, D.R., & Wright, B.A. (2014). Are re

The DFG awards funding for project implementation and to enable researchers to obtain qualifications at an early phase of their career. Since the DFG is not itself the employer here, it believes the duty of care lies with the relevant supervisors and host institutions, and expects the latter to provide framework conditions that ensure effective career support.

These principles are to be understood as a supplement to the guidelines for safeguarding good research practice. They summarise how the situation of researchers in early career phases should be structured and are especially applicable to doctoral and post-doctoral students.

1. Universities and research institutions have clearly established principles for the treatment of researchers in an early phase of their career and act accordingly. Among other things, they are guided by good research practice. What is more, the rules of good research practice are communicated to doctoral students and postdocs and are proactively embraced on a day-to-day basis.

2. A balance is struck between giving researchers support and allowing them to take on independent responsibility, as appropriate to their career level. They are able to take responsibility for shaping their own career by being given increasing independence. They enjoy a status that corresponds to their role and responsibilities and are appropriately involved in decision-making processes.

3. The individual accomplishments of each researcher at an early stage of their career – such as in the areas of teaching and writing project proposals or publications – are adequately reflected and recognised. The assessment of academic performance is primarily based on qualitative standards.

4. Supervision varies according to the career level. Good mentoring includes regular feedback sessions and career counselling. In the doctoral phase in particular, supervision is best provided based on a supervision agreement with defined contact persons and a clear-cut definition of roles, rights and responsibilities. Multiple supervisor allocation is a good way to ensure optimum supervision at all times – even in difficult and contentious situations or when one supervisor is absent. There is a code of conduct to ensure effective conflict management, and an independent arbitration board can be consulted if necessary. In addition to supervision itself, mentoring schemes are provided for individual support in career development involving experienced individuals from the academic environment or from other fields.

5. Supervising early-career researchers is a responsible and time-consuming task: professional development schemes and leadership training can help supervisors perform it effectively. Supervisors are role models, they deserve appreciation for providing sound, dedicated supervision.

6. The institutions are aware of their responsibility for the quality of research. For this reason, they implement quality assurance measures

which are an important part of the educational process, ensuring adherence to both interdisciplinary and subject-specific standards. This also includes the promotion of an open error culture.

7. Researchers enjoy attractive conditions. Above all, this means plannable career prospects, adequate pay and resources, equal opportunities and the compatibility of work and family life. They receive support for successful re-entry or re-exit. Early-career researchers are given access to research infrastructures. In the case of temporary positions for qualification purposes, care is taken to ensure that employment relationships are structured in such a way that the qualification goal is the minimum a researcher is able to achieve.

8. Researchers' career development is supported by means of suitable measures: they are integrated in the academic research community at an early stage and receive support establishing networks, for example through attendance at conferences or by going on research stays abroad. They are also given the opportunity to gain teaching experience, which is essential for a university career as well as being beneficial to other career paths.

9. Higher education institutions and research institutions run personnel development schemes and offer suitable support and guidance for various career paths. Programmes are offered for early-career researchers to support them in acquiring subject-specific and interdisciplinary skills – regardless of whether they intend to pursue a career in the academic sector or elsewhere. Career paths leading out of academia are equally worthy of recognition, and academic qualifications are also valuable outside the academic sector, where the vast majority of doctorate holders ultimately continue their careers.

10. Early-career researchers enjoy diversity, flexibility and permeability: equal opportunities and recognition are offered for different career paths. Universities facilitate transitions between career stages and offer support during critical transition phases. They also provide support for moves between sectors, because interchange and practical experience are enriching. Moves between employers, differing forms of mobility and family-related time off are adequately taken into account so as avoid hindering career progression as far as possible. Internationalism is promoted.

We note that the above descriptions of career counselling are not presented as absolute requirements for research institutions but as *"recommendations, both to its member institutions and to all other institutions and individuals that receive funding from the DFG to finance early-career researchers"*.

3.3.2 Denmark – provisions on university staff

We have received information from the organisation Universities Denmark/Danske Universiteter. They have informed that there is no "hard governance" or specific cross-institutional recommendation, guidelines, etc. on

career counselling/researcher development, but that the topic has received substantial attention.

In 2019, the Ministry of Higher Education and Science issued and order ("Bekendtgørelse") on the job structure for academic positions at the universities.[43] In the order, there were both a general obligation to provide career counselling in temporary contracts (translated from Danish by authors):

> *The university shall highlight the career prospects open to academic staff members, including staff on temporary contracts. This should include ongoing conversations about possible career paths for the individual within and without the university.*

The use of tenure track positions is emphasised and encouraged in the order, and there are specific provisions on milestones in career developments for tenure track staff.

3.3.3 The Netherlands – collective agreement

In the Netherlands, the collective agreement between the Universities of the Netherlands and four labour unions has several provisions om researcher development and counselling.[44] Collective agreements are not a national policy instruments. We have included the following presentation because it contributes to the understanding of the state of researchers' career development in the Netherlands. The agreement states that

- All employers (universities) shall establish a career policy.
- All employees with temporary contracts for a period of two years or more shall be given the opportunity to obtain career advice from a professional organisation. The employer shall bear the costs for this consultation. Every employee with a permanent employment contract is entitled to career advice at least once every five years, to be completed with, if possible, consultation with an expert in the field of career development.
- Certain procedures related to tenure track are also specified in the agreement, including the timing of consultations, evaluation and decision on permanent contract. Likewise, there are provisions on individuals plans and assessment for PhD candidates.
- All employees shall meet with his or her line manager at least once a year with regard to the way the employee is expected to perform or pursue his or her career. Multi-year career development objectives and agreements are laid down in a personal development plan. These agreements and objectives will be laid down and evaluated in writing.

[43] BEK nr 1443 af 11/12/2019, https://www.retsinformation.dk/eli/lta/2019/1443

[44] https://www.universiteitenvannederland.nl/files/documenten/CAO/2022/UNL-18575-07-CAO%20Nederlandse%20Universiteiten%202022%20%28EN%29%20(2).pdf

4 Evidence and efficacy

It is beyond the scope of this study to provide a comprehensive review on the efficacy of researcher development intervention. However, it is useful to summarise some of the key findings so far and demonstrate where they link with the scientific evidence. There is a growing research agenda around researchers' careers and considerable interest in improving the evidence on which interventions are based.

Researchers' careers are challenging and precarious. They frequently require intersectoral, geographical and disciplinary shifts from researchers and this in turn requires researchers to exhibit skill in career management. Because of this there is a wide recognition from policy, practice and researchers themselves, that improved structures and support are necessary to allow researchers to self-actualise and societies to make the best use of the skills available to them.

The 'problem' of researchers' careers has led to the development of an international policy agenda in search of a solution. Where this has worked most effectively this has been conceived holistically with interventions taking place at the national/policy level, through funding rules, at the level of institutional human resource management and through a range of career and professional development interventions. This kind of systemic and holistic approach to researcher development is likely to be the most effective approach for improving the career opportunities for researchers and ideally includes interventions at a systemic level[45] organisational change[46] and professional development all working in the same direction.

One of the key enablers for effective researcher development is agreement about the skills, knowledge and attributes that the intervention is trying to develop. Despite their generally high levels of skills, researchers still report a wide range of needs for skills development.[47] This has led to a range of frameworks which specify what the outcomes of researcher development interventions should be and therefore provide practitioners with the tools needed to construct a meaningful and useful curriculum for professional development.

The professional and career development elements of researcher development need to be multi-faceted and multi-modal, with researchers able to choose elements that meet their needs and align with their career aspirations. While the evidence for researcher development interventions remains emergent the evidence that does exist supports their efficacy.[48]

---

[45] Kent B.A. et al. (2022). Recommendations for empowering early career researchers to improve research culture and practice. *PLoS Biol* 20(7): e3001680. https://doi.org/10.1371/journal.pbio.3001680

[46] Browning, L., Thompson, K., & Dawson, D. (2016). It takes a village to raise an ECR: Organisational strategies for building successful academic research careers. *International Journal for Researcher Development*, 7(2), 192-197. https://doi.org/10.1108/IJRD-11-2015-0031

[47] Bhakta, D., & Boeren, E. (2016). Training needs of early career researchers in research-intensive universities. *International Journal for Researcher Development*, *7*(1), 84-102. https://doi.org/10.1108/IJRD-06-2015-0017

[48] Mazmanian, P.E., Coe, A.B., Evans, J.A., Longo, D.R., & Wright, B.A. (2014). Are researcher development interventions, alone or in any combination, effective in improving researcher behavior? A

It is important to recognise that researcher development activities are necessarily inter-professional, various involving academics, career guidance professionals, learning developers, librarians and other professional groups.[49] While the career guidance profession and universities institutional careers services have an important role to play in this work, they are not able to deliver it alone. It is also critical to involve researchers themselves in any initiatives designed to improve their careers.[50]

Systematic Review. Evaluation & the Health Professions. 37(1), 114-139. https://doi.org/10.1177/0163278713510375

[49] Fazal, F.A., & Chakravarty, R. (2021). Researcher development models and library research support. *Library Hi Tech News*, 38(4), 18-22. https://doi.org/10.1108/LHTN-04-2021-0015

[50] Kent B.A. et al., (2022) Recommendations for empowering early career researchers to improve research culture and practice. *PLoS Biol* 20(7): e3001680. https://doi.org/10.1371/journal.pbio.3001680

5 Reflections

Initial findings demonstrate that there is a strong and well-established body of international policy and practice on researcher development. This is particularly the case in the UK and at the European level. In contrast, the policy framework for researcher development is relatively limited in most other European countries, with it being more usual for activities to be led by higher education institutions than by national policy. This also seems to be the case in Norway, where a number of institutions have engaged with researcher development, but there is no clear national policy. However, there is a strong case to be made that the emergent researcher development practice in Norway would benefit from being linked together and coordinated more systematically at a national level.

Key areas for consideration for HK-Dir are discussed below under the headings of carrots (funding and incentives), sticks (regulation and penalties) and sermons (guidance, advice and instructions).

Underpinning the specific considerations about policy actions are some bigger questions about what the appropriate boundaries for HK-Dir are in relation to researcher development? Should work focus at the level of practice or is there an appetite to also address questions of the organisational development and HR strategies of higher education institutions and wider questions about the structures that support research in Norway?

The question of boundaries raises the related question of who the relevant stakeholders are in researcher development in Norway. Should HK-Dir take a lead on this area, work as part of a collective, view itself as a convenor of stakeholders or take some other role. Most policy related to researcher development is created through multi-stakeholder consensus.

All of these issues raise the question of how researcher development should be framed in Norway. Should an attempt be made to connect this agenda to the wider reforms on career guidance by picking up key language and concepts or should activities be framed as ‘researcher development’ to align with wider European practice?

Given this HK-Dir should consider the following questions.

5.1 Carrots

- Should HK-Dir investigate the possibility of providing funding to higher education institutions to support the development of researchers?
- What other incentives can be offered to engage stakeholders in this agenda?

5.2 Sticks

- What can be done to increase the engagement with the Charter and Code beyond the current 24 Norwegian institutions that have signed up to it? Perhaps more importantly what can be done to ensure that signing the

Charter and Code results in real and substantial improvements in practice? Similarly, what can be done to increase the engagement with the HR Excellence in Research Award? Alternatively, should Norway build its own process for engaging stakeholders in research development, as the UK has done with its Concordat?

- What mechanisms exist or could be built to monitor the researcher development agenda, the level of engagement of universities and other research employers, and the working conditions and career opportunities of reseachers? Could this also include analysis of the longer-term career trajectories of researchers both for the purpose of monitoring and to provide relevant labour market information for researchers? Should HK-Dir lead on the development and reporting of data in this area?

5.3 Sermons

- How can Norwegian researchers be encouraged to use Euraxess to support their career development?
- Should Norway adopt the European ResearchComp framework or develop its own bespoke framework for researchers careers?
- Should HK-Dir commission a systematic review of the evidence that supports researcher development and actively build the national evidence base in this area?
- Should HK-Dir develop more guidance for researcher development provision in Norwegian universities?

Appendix: Typology of policies for researcher development

From: "Taking stock, evaluating the achievements and identifying the way forward for the ERA Priority 3 policy measures"

Table 7 Possible EU instruments supporting interventions at different levels

Types of EU instrument	EU level	National level	Institutional level	Individual level
Legal framework	• Review options within current framework, e.g. around social security or pension entitlement	• Guidance on reviewing or updating national legislative frameworks		
Commitment	• Endorsement of the Charter and Code	• Endorsement of the Charter and Code	• Endorsement of the Charter and Code	• Endorsement of the Charter and Code
Compliance		• National Action Plans (within overall ERA)	• Requirements/incentives within Horizon Europe	• Design/requirements of MSCA
Support for reform		• National guidelines • Support for national reforms • Promoting use of ESIF to support research careers	• Guidelines for institutions • Strengthened HRSR process • Designed into European University Alliances	
Service provision		• National Talent Management Offices (ERA Talent Platform)	• Institutional Talent Management Offices (ERA Talent Platform)	• Individual Talent Management Services (ERA Talent Platform)
EU co-financed pilot initiatives		• Piloting new approaches (e.g. tenure track, research assessment, career diversification, etc.)	• Piloting new approaches (e.g. tenure track, research assessment, work-life balance, etc.) • Designed into European University Alliances	
Mutual learning and exchange of experience	• Open method of co-ordination	• Benchmarking • Exchanges of experience • Good practice	• Communities of practice • Exchanges of experience • Good practice	• Mentoring • Researcher networks
Monitoring implementation and progress	• EU-level monitoring (within overall ERA)	• National reporting (within overall ERA)	• Reporting within HRS4R	• Research tracking surveys

Literature

Balaban, C. (2018). Mobility as homelessness: The uprooted lives of early career researchers. *Learning and Teaching*, 11(2), 30-50. https://doi.org/10.3167/latiss.2018.110203

Bemelmans-Videc, M. L., Rist, R. C., & Vedung, E. O. (Eds.). (2011). *Carrots, sticks, and sermons: Policy instruments and their evaluation*. Transaction Publishers.

Bhakta, D., & Boeren, E. (2016). Training needs of early career researchers in research-intensive universities. *International Journal for Researcher Development*, 7(1), 84-102. https://doi.org/10.1108/IJRD-06-2015-0017

Bray, R. & Boon, S. (2011), Towards a framework for research career development: An evaluation of the UK's Vitae Researcher Development Framework. International Journal for Researcher Development, 2(2), 99-116. https://doi.org/10.1108/17597511111212709

Browning, L., Thompson, K., & Dawson, D. (2016). It takes a village to raise an ECR: Organisational strategies for building successful academic research careers. *International Journal for Researcher Development*, 7(2), 192-197. https://doi.org/10.1108/IJRD-11-2015-0031

Christian, K., Johnstone, C., Larkins, J., Wright, W., Doran, M.R. (2021) Research culture: A survey of early-career researchers in Australia. *eLife,* 10:e60613. https://doi.org/10.7554/eLife.60613

Concordat strategy group. (2019). The Concordat to support the career development of researchers. https://researcherdevelopmentconcordat.ac.uk/wp-content/uploads/2022/01/Researcher-Development-Concordat_Sept2019-1.pdf

Dash, D.P. (2015). Enacting a developmental niche for researchers: Lessons from research education initiatives in India and Malaysia. *International Journal for Researcher Development*, 6(2), 144-164. https://doi.org/10.1108/IJRD-08-2014-0022

European Science Foundation. (2012). *Developing research careers in and beyond Europe: Enabling – Observing – Guiding and Going Global*. ESF. https://www.esf.org/fileadmin/user_upload/esf/MO_Developping_EU-careers_Report_2012.pdf

Euraxes. (n.d.). *HR Excellence in Research award*. https://euraxess.ec.europa.eu/jobs/hrs4r

Euraxess. (n.d.). *Human resources strategy for researchers (HRS4R)*. https://euraxess.ec.europa.eu/node/5765/

Euraxess. (n.d.). New! Research profiles descriptors. https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors

Euraxess. (n.d.). *Reflex. Researcher career development scheme*. https://euraxess-reflex.saia.sk/reflexapp/

Euraxess. (n.d.). *The European Charter and Code for Researchers*. https://euraxess.ec.europa.eu/jobs/charter

Euraxess. (n.d.). *The European Charter for Researchers*. https://euraxess.ec.europa.eu/jobs/charter/european-charter

European Commission. (2011). *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

European Commission. (2021). European Research Area policy agenda. European Commission. https://research-and-innovation.ec.europa.eu/system/files/2021-11/ec_rtd_era-policy-agenda-2021.pdf

Fazal, F.A., & Chakravarty, R. (2021). Researcher development models and library research support. *Library Hi Tech News*, 38(4), 18-22. https://doi.org/10.1108/LHTN-04-2021-0015

Fisher, J. J., & James, J. L. (2022). Know the game: insights to help early career researchers successfully navigate academia. *Placenta*, 125, 78-83. https://doi.org/10.1016/j.placenta.2021.10.013

Hooley, T., Sultana, R. G., & Thomsen, R. (2017a). The neoliberal challenge to career guidance—Mobilising research, policy and practice around social justice. In T. Hooley, R. Sultana, & R.G. Thomsen (Eds.) *Career guidance for social justice: Contesting neoliberalism*. Routledge.

IDEA Consult. (2022). *Knowledge ecosystems in the new ERA: Using a competence-based approach for career development in academia and beyond*. European Commission. https://op.europa.eu/en/publication-detail/-/publication/8d536780-3025-11ed-975d-01aa75ed71a1/language-en

Kent B.A. et al., (2022) Recommendations for empowering early career researchers to improve research culture and practice. *PLoS Biol* 20(7): e3001680. https://doi.org/10.1371/journal.pbio.3001680

Laudel, G., & Gläser, J. (2008). From apprentice to colleague: The metamorphosis of early career researchers. *Higher Education*, *55*, 387-406. https://doi.org/10.1007/s10734-007-9063-7

Mazmanian, P.E., Coe, A.B., Evans, J.A., Longo, D.R., & Wright, B.A. (2014). Are researcher development interventions, alone or in any combination, effective in improving researcher behavior? A Systematic Review. *Evaluation & the Health Professions*. 37(1), 114-139. https://doi.org/10.1177/0163278713510375

National Centre for Universities and Business. (2015). *The exchange of early career researchers between universities and businesses in the UK*. https://www.ncub.co.uk/wp-content/uploads/2015/12/The-Exchange-of-Early-Career-Researchers-between-Universities-and-Businesses-in-the-UK.pdf

Nowell, L., Dhingra, S., Kenny, N., Jacobsen, M., & Pexman, P. (2021). Professional learning and development framework for postdoctoral scholars.

Studies in Graduate and Postdoctoral Education, 12(3), 353-370. https://doi.org/10.1108/SGPE-10-2020-0067

Research Council of Norway. (2021). Science and technology indicators for Norway 2021. https://www.forskningsradet.no/globalassets/sti-report-2021.pdf

Roberts, G. (2001). *SET for success. The supply of people with science, technology, engineering and mathematics skills*. https://webarchive.nationalarchives.gov.uk/ukgwa/+/http:/www.hm-treasury.gov.uk/d/robertsreview_introch1.pdf

Speelman, C. P. (2021). Development support of early career researchers in the Netherlands: Lessons for Australia. *SAGE Open*, 11(3), 21582440211047564. https://doi.org/10.1177/2158244021104756University of Bath. (n.d.) *Careers Service support for researchers*. https://www.bath.ac.uk/guides/careers-service-support-for-researchers/

Universities of the Netherlands (2022): Collective Labour Agreement for Dutch Universities. https://www.universiteitenvannederland.nl/files/documenten/CAO/2022/UNL-18575-07-CAO%20Nederlandse%20Universiteiten%202022%20%28EN%29%20(2).pdf

University of Bath. (n.d.) Careers Service support for researchers. https://www.bat

University of Cambridge. (n.d.). *Postdoc academy*. https://www.postdocacademy.cam.ac.uk/about-postdoc-academy

University of Reading. (n.d.) *Reading researcher development programme*. https://www.reading.ac.uk/graduate-school/training-and-development/reading-researcher-development

University of Strathclyde. (n.d.). Postgraduate research researcher development. https://www.strath.ac.uk/studywithus/postgraduateresearch/researcherdevelopment/

Vitae. (2021). *Evolution of the Concordat*. https://www.vitae.ac.uk/policy/concordat/policy/concordat/background

Vitae. (2022). *A brief history of researcher development in the UK*. https://www.vitae.ac.uk/policy/a-brief-history-of-researcher-development-in-the-uk

Vitae. (n.d.). *Researcher development framework*. https://www.vitae.ac.uk/vitae-publications/rdf-related/researcher-development-framework-rdf-vitae.pdf/view

Woolston, C. (2017). Graduate survey: A love–hurt relationship. *Nature,* 550, 549–552. https://doi.org/10.1038/nj7677-549a

Acronyms

Charter & Code: The European Charter for Researchers and a Code of Conduct for the Recruitment of Researcher

Concordat. The Concordat to support the career development of researchers (the UKs framework for organisations to sign up to the researcher development agenda)

COST: European Cooperation in Science and Technology programme

EARCD: European Alliance on Research Career Development

ESF: The European Science Foundation

ERA: European Research Area

Euraxess: The European portal for researchers careers.

HK-Dir: The Norwegian Directorate for Higher Education and Skills.

Horizon: Horizon Europe is the EU's key funding programme for research and innovation with a budget of €95.5 billion.

HRS4R: Human resources strategy for researchers' award.

RDF: Researcher development framework

REFLEX: The Euraxess framework for practice in researcher development

ResearchComp: The European Competence Framework for Researchers