Brussels, 21ˢᵗ July 2011

TOWARDS A EUROPEAN FRAMEWORK FOR RESEARCH CAREERS

1. Introduction

The Treaty on the Functioning of the European Union states in article 179.1:

"The Union shall have the objective of strengthening its scientific and technological bases by achieving a European research area in which researchers, scientific knowledge and technology circulate freely, and encouraging it to become more competitive, including in its industry, while promoting all the research activities deemed necessary by virtue of other Chapters of the Treaties"

This draft classification aims to communicate the various characteristics that researchers may have throughout their career. It intends providing a classification that is independent of a particular career path or sector. It identifies characteristics typically required for highly diverse careers in the education, research, public and private sectors.

Europe does lack an open and transparent internal labour market for researchers. There are no comparable research career structures. The researchers' labour market is fragmented nationally and there is segregation between careers in academia, industry and other sectors. There is cross-country and cross-sector mobility, but many barriers remain. Career choices are often irreversible as it can be very difficult to move between sectors. Research careers frequently lack a clear and transparent prospective; early career researchers may not be aware of the range of opportunities across employment sectors. Employers are not always clear of the competences that researchers possess and the benefits they could bring to their company.

One way to address this fragmentation might be the creation of a European Framework for Research Careers, which would describe the generality of the research career in commonly understood terms. The Career Framework could help to establish "comparable research career structures", as asked for in the Innovation Union Flagship Initiative in the context of the work on the ERA framework and supporting measures to remove obstacles to mobility and cross-border cooperation[1]. The ERA Steering Group on Human Resources and Mobility has asked its

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[1]Europe 2020 Flagship Initiative Innovation Union COM(2010) 546 final of 6.10.2010 (Commitment 4) http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf#view=fit&pagemode=none

Working Group on Skills to explore this possibility and consult with stakeholders[2]. The European Framework for Research Careers is adopted by the Steering Group in May 2011. It is a **voluntary transparency instrument** intended to make research career structures generally comparable across employment sectors and countries. The Framework will be revisited, its impact monitored and accordingly re-adapted, by the appropriate committee, at least every 2nd year.

The Framework describes four broad profiles, with the following **working titles**:

> *R1*   ***First Stage Researcher*** *(up to the point of PhD)*
> *R2*   ***Recognised Researcher*** *(PhD holders or equivalent who are not yet fully independent)*
> *R3*   ***Established Researcher*** *(researchers who have developed a level of independence.)*
> *R4*   ***Leading Researcher*** *(researchers leading their research area or field)*

The Framework is "sector-neutral". The descriptors apply to all researchers, independent of where they work in the private or public sector: in companies, NGOs, research institutes, research universities or universities of applied sciences. Regardless of any particular profession one can outline broad profiles that describe the different characteristics researchers may possess. Starting point was the Frascati Manual definition of researcher[3]:

"Researchers are professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of the projects concerned."

The European Framework for Research Careers builds on the European Qualifications Framework for lifelong learning[4] (EQF) and the Bologna Framework for Qualifications in the European Higher Education Area[5]. The second profile (R2) of the researchers' framework corresponds with completion of the highest levels of EQF (level 8) and Bologna (third cycle).

2.   Connecting sectoral, national and institutional frameworks

Research career frameworks are emerging at sector-specific, national and institutional level. The Member Organisation Forum of the European Science Foundation (ESF) has developed a framework for researchers funded through its members[6]. The League of European Research Universities (LERU) has described a framework for research careers at member universities[7].

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[2] Some 30 reactions were received from country delegates in the ERA Steering Group on Human Resources and Mobility and from stakeholders. The Working Group on Skills was attended by country delegates and observers from the European University Association (EUA), the League of European Research Universities (LERU), the Coimbra Group, the European Council of Doctoral Candidates and Junior Researchers (EURODOC) the European Industrial Research Management Association (EIRMA) and the European Science Foundation Member Organisations Forum (ESF). A small hearing was organised with representatives from private companies. The current document does not preclude Stakeholders' positions.

[3] http://browse.oecdbookshop.org/oecd/pdfs/browseit/9202081E.PDF

[4] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF

[5] http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents/QF-EHEA-May2005.pdf

[6] Research Careers in Europe Landscape and Horizons http://www.esf.org/publications.html. The ESF approach is very similar and merits joint action.

[7] http://www.leru.org/files/publications/LERU_paper_Harvesting_talent.pdf

Member States have started to develop national professional development frameworks for their researchers, for example the United Kingdom[8]. Individual research organisations have established their own frameworks directly related to job descriptions within those institutions and companies[9]. The focus and terminology of the various frameworks differ, but there is a substantial overlap in content and purpose.

The Framework is expected to have a <u>bridging function</u> for the sector-specific, national and institutional frameworks, providing a common language to a wide variety of actors across the continent and beyond.

3.   Benefits of the framework

A commonly understood European Framework for Research Careers could serve several practical purposes for different categories of users, but is mainly intended to provide some reference to researchers and their employers. The framework could notably:

help researchers:

- identify job offers close to their individual profile in diverse employment sectors, including academia and industry
- present themselves (some of their individual characteristics) in a commonly understood language
- understand what - in general terms - is expected of them throughout their career.

help employers[10]:

- identify candidates close to the job profile on offer
- identify candidates from different employment sectors (academia, industry etc.)
- set priorities for staff training
- organise career guidance
- inform their overall institutional human resources strategies, for instance as regards the portfolio management of researchers staff.

In addition, the framework could serve to:

help public authorities:

- inform strategies to train enough researchers to meet their regional and national R&D targets and to promote attractive employment conditions[11].
- make international comparisons and benchmark their researcher population.

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[8] Researcher Development Framework www.vitae.ac.uk/rdf
[9] See for instance in the DOC-CAREERS project of EUA http://www.eua.be/eua-work-and-policy-area/research-and-innovation/doctoral-education/doc-careers/
[10] Universities, funders, public research organisations, companies
[11] Europe 2020 Flagship Initiative Innovation Union COM(2010) 546 final of 6.10.2010 (Commitment 1)

help potential researchers:

- develop a better idea of a career in research.

help society:

- appreciate researchers' capacities.

help the European Research Area:

- promote more mobility across borders and employment sectors, by enhancing comparability and transparency on career opportunities, thus also helping to:
- better attract highly skilled talent from third countries[12] and, ultimately,
- contribute to the establishment of a single market for knowledge, research and innovation[13].

4. Actors using the Framework

The intention of having a Framework is to support the research community: researchers, their employers (universities, research institutes and companies), funders and public authorities. These actors can voluntarily use the framework as they see appropriate within their own institutional or national context. There is no central assessment mechanism for researchers and there are no central rules on how to apply profiles. At European level there may be an exchange of good practice, resulting in non-binding guidance for interested parties.

The Commission envisages introducing the Framework on the EURAXESS Jobs portal in the summer of 2011 as a helpful categorisation of research job opportunities. This would create an opportunity for employers and funders to start using the framework when publishing their job and funding adverts on a European scale. Commission programmes could start using the framework as a consistent categorisation for different funding instruments from 2014.

Annex:
1. Nomenclature European Research Careers
2. Nomenclature European Funding Programmes
3. Profile Descriptors

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[12] Europe 2020 Flagship Initiative Innovation Union COM(2010) 546 final of 6.10.2010 (Commitment 30)
[13] Conclusions of the European Council of 4 February 2011
http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/119175.pdf

Nomenclature European Research Careers

ERA - SGHRM Working Group Training, Skills and Industry / Academia Relationship

1. First Stage Researcher
2. Recognised Researcher
3. Established Researcher
4. Leading Researcher

ESF Report - on Research Careers in Europe – Landscape and Horizons

1. Doctoral training stage
2. Post-doctoral stage
3. Independent research stage
4. Established researchers

LERU report - Harvesting talent: strengthening research careers in Europe

1. Doctoral candidate
2. Post doctoral scientist
3. University scientist
4. Professor

Nomenclature European Funding Programmes

Marie Curie Actions/FP7

1. Early stage researcher
2. Experienced researcher

European Research Council (ERC)

1. Starting independent researcher (StG)

   - *StG-Starter (2-7 year post PhD)*
   - *StG-Consolidator (7-12 years post-PhD)*

2. Advanced Investigator

Profile Descriptors

There are four broad profiles for researchers, which are independent of any particular sector, with the following working titles:

>   ***R1***   ***First Stage Researcher*** *(up to the point of PhD)*
>   ***R2***   ***Recognised Researcher*** *(PhD holders or equivalent who are not yet fully independent)*
>   ***R3***   ***Established Researcher*** *(researchers who have developed a level of independence.)*
>   ***R4***   ***Leading Researcher*** *(researchers leading their research area or field)*

The Framework identifies both necessary and desirable characteristics, which could be applicable across a wide range of careers, including those in higher education, the private and public sectors. The necessary competences focus on those that are associated directly with research activity regardless of whether it is in the public or private sector. Many of these are transferable to other careers, for example, project and team management skills. Clearly there are other skills that are sector dependent and are classified under the heading of desirable competences. These would include business culture and management skills (market oriented knowledge). Note that the desirable competences are provided as examples, not as an exhaustive list.

Nature of the descriptors

- High quality research is the prime criterion.
- The descriptors focus on those core characteristics linked to research and not on other competences that may be relevant for a particular profession, for example, teaching in academia
- The profiles do not necessarily relate to seniority
- Apart from the First Stage Researcher the profiles should <u>not</u> always be considered as stages on a progressive career path, although it may be assumed that a researcher in one profile will also have accumulated/acquired the necessary competences of the preceding profiles
- A researcher could thus remain in the profile "established" for his or her entire career
- The descriptors will not necessarily match one-to-one with each individual career
- The descriptors aim to demonstrate the transferability of the competences and skills to other environments and fields of research where they can be applied and used
- The descriptors of the characteristics competences are dissociated from any particular job title or career track
- Descriptors are not intended as a list of tick boxes.
- Individual researchers may go well beyond these descriptors.

First Stage Researcher (R1)

This profile includes individuals doing research under supervision in industry, research institutes or universities. It includes doctoral candidates.

Researchers with this profile will:

- ***Carry out research under supervision***
- ***Have the ambition to develop knowledge of research methodologies and discipline***
- ***Have demonstrated a good understanding of a field of study***
- ***Have demonstrated the ability to produce data under supervision***
- ***Be capable of critical analysis, evaluation and synthesis of new and complex ideas***
- ***Be able to explain the outcome of research and value thereof to research colleagues***

<u>Desirable competences</u>

- *Develops integrated language, communication and environment skills, especially in an international context.*

Recognised Researcher (R2)

Here we are including;

♦ doctorate degree (PhD) holders who have not yet established a significant level of independence,

♦ researchers with an equivalent level of experience and competence.

These descriptors are adapted from the well accepted Dublin Descriptors for the third cycle of the European Higher Education Area (Bologna)[14], which correspond to the Learning Outcomes of level 8 of the European Qualifications Framework for lifelong learning (EQF)[15].

<u>**Necessary competences**</u>

All competences of 'First Stage Researcher' plus:

- *Has demonstrated a systematic understanding of a field of study and mastery of research associated with that field*

- *Has demonstrated the ability to conceive, design, implement and adapt a substantial programme of research with integrity*

- *Has made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, innovation or application. This could merit national or international refereed publication or patent.*

- *Demonstrates critical analysis, evaluation and synthesis of new and complex ideas*

- *Can communicate with their peers - be able to explain the outcome of their research and value thereof to the research community*

- *Takes ownership for and manages own career progression, sets realistic and achievable career goals, identifies and develops ways to improve employability.*

- *Co-authors papers at workshop and conferences*

<u>**Desirable competences**</u>

- *Understands the agenda of industry and other related employment sectors*

- *Understands the value of their research work in the context of products and services from industry and other related employment sectors*

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[14] http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents/QF-EHEA-May2005.pdf

- *Can communicate with the wider community, and with society generally, about their areas of expertise*

- *Can be expected to promote, within professional contexts, technological, social or cultural advancement in a knowledge based society*

- *Can mentor First Stage Researchers, helping them to be more effective and successful in their R&D trajectory.*

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[15] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF

Established Researcher (R3)

This describes researchers who have developed a level of independence.

<u>Necessary competences</u>

All necessary and most desirable competences of 'Recognised Researcher' plus:

- ***Has an established reputation based on research excellence in their field***
- ***Makes a positive contribution to the development of knowledge, research and development through co-operations and collaborations***
- ***Identifies research problems and opportunities within their area of expertise***
- ***Identifies appropriate research methodologies and approaches***
- ***Conducts research independently which advances a research agenda***
- ***Can take the lead in executing collaborative research projects in cooperation with colleagues and project partners***
- ***Publishes papers as lead author, organises workshop or conference sessions***

<u>Desirable competences</u>

- *Establishes collaborative relationships with relevant industry research or development groups*
- *Communicates their research effectively to the research community and wider society*
- *Is innovative in their approach to research*
- *Can form research consortia and secure research funding / budgets / resources from research councils or industry*
- *Is committed to professional development of their own career and acts as mentor for others.*

Leading Researcher (R4)

This is a researcher leading their research area or field. It would include the team leader of a research group or head of an industry R&D laboratory. In particular disciplines as an exception, leading researchers may include individuals who operate as lone researchers.

<u>Necessary competences</u>

All necessary and most desirable competences of 'Established Researcher' plus:

- *Has an international reputation based on research excellence in their field*
- *Demonstrates critical judgment in the identification and execution of research activities*
- *Makes a substantial contribution (breakthroughs) to their research field or spanning multiple areas*
- *Develops a strategic vision on the future of the research field*
- *Recognises the broader implications and applications of their research*
- *Publishes and presents influential papers and books, serves on workshop and conference organising committees and delivers invited talks*

<u>Desirable competences</u>

- *Is an expert at managing and leading research projects*
- *Is skilled at managing and developing others*
- *Has a proven record in securing significant research funding / budgets / resources*
- *Beyond team building and collaboration, focusing on long-term team planning (e.g. career paths for the researchers and securing funding for the team positions)*
- *Is an excellent communicator and networker within and outside the research community [creating networks]*
- *Is able to create an innovative and creative environment for research*
- *Acts as a professional development role model for others.*