Carriere Scientifiche highlights sulle iniziative ESF, Science Europe e MIUR

L. Catani - CUG - 27 Novembre 2013
MO Fora sulle Carriere Scientifiche

Working Group Research Careers

MIUR e l’empowerment dei ricercatori
How to Track Researchers’ Careers
A report by the ESF MO Forum on European Alliance for Research Careers Development

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The European Science Foundation (ESF) is an association of 67 member organizations devoted to scientific research in 29 European countries. It is an independent, non-governmental, non-profit organisation that facilitates cooperation and collaboration in European research and development, European science policy and science strategy.
ESF- European Science Fundation

ESF Member Organisations in 2013
67 Member Organisations in 29 countries

France
- Agence Nationale de la Recherche (ANR)
  French National Research Agency
- Centre National de la Recherche Scientifique (CNRS)
  National Centre for Scientific Research
- Commissariat à l’Énergie Atomique/Direction des Sciences de la Matière (CEA/DSM)
  Materials Sciences Division of the Atomic Energy Commission
- Institut Français de Recherche pour l’Exploitation de la Mer (Ifremer)
  French Research Institute for Exploitation of the Sea
- Institut National de la Recherche Agronomique (INRA)
  National Institute for Agronomic Research
- Institut National de La Santé et de la Recherche Médicale (Inserm)
  French National Institute of Health and Medical Research
- Institut de Recherche pour le Développement (IRD)
  National Institute for Development

Germany
- Deutsche Forschungsgemeinschaft (DFG)
  German Research Foundation
- Helmholtz-Gemeinschaft Deutscher Forschungszentren (HGF)
  Helmholtz Association of German Research Centres
- Max-Planck-Gesellschaft (MPG)
  Max Planck Society
- Union der deutschen Akademien der Wissenschaften
  Union of the German Academies of Sciences and Humanities

Italy
- Consiglio Nazionale delle Ricerche (CNR)
  National Research Council
- Istituto Nazionale di Fisica Nucleare (INFN)
  National Institute for Nuclear Physics
ESF- European Science Fundation

Member Organisation Fora

About
An ESF Member Organisation Forum is an output-oriented, issue-related venue for the Member Organisations, involving other organisations as appropriate, to exchange information and experiences and develop joint actions in science policy. (ESF Strategy Plan 2006-2010)

General information
- MO Fora policy
- MO Fora Presentation

Current MO Fora:
- European Alliance on Research Career Development
- Research Infrastructures
- Scientific Foresight for Joint Strategy Development
- Evaluation of Publicly Funded Research
- Evaluation: Indicators of Internationalisation

Completed MO Fora:
- Science in Society Relationships
- Peer Review
- Research Integrity
- Research Careers
- Evaluation of Funding Schemes and Research Programmes
- Promoting Internationalisation of Social Sciences in Central and Eastern Europe
Forum ESF: “Research Careers in Europe Landscape and Horizons”

‘... the XXIst... will be the century of science and technology. More than ever, investing in research and technological development offers the most promise for the future. In Europe, however, the situation concerning research is worrying. Without concerted action to rectify this, the current trend could lead to a loss of growth and competitiveness in an increasingly global economy’ (Philippe Busquin, 2001)

Europe has set itself the ambitious goal to become ‘the most dynamic and competitive knowledge economy in the world’ (Lisbon, March 2000)

To achieve this goal, the European Council agreed a spending target approaching 3% of GDP on European research and development (R&D) by 2010.

As a consequence, the European Commission stated that Europe would need to make strong efforts to build additional research capacity in the near future.

Increased investment in research will raise the demand for researchers: about 1.2 million additional personnel, including 700 000 additional researchers, are deemed necessary to attain the objective.
### Participating organisations and nominated representatives

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<th>Country</th>
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<td>Austria</td>
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<td>Gerhard Leder, Barbara Haberl</td>
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<td>Jan De Beule, Benno Hinnekint, Stijn Verleyen</td>
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<td>Elisabeth Kokkelkoren, Bruno Moraux, Pascal Perrin</td>
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<td>Eleana Gabriel, Joanna Loisou</td>
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<td>Carol Featherstone</td>
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### Observers

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<td>League of European Research Universities (LERU)</td>
<td>Katrien Maes</td>
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<td>EURODOC</td>
<td>Karoline Hollaender, Koen van Dam</td>
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<td>EURYI Awardee</td>
<td>Svetlana Berdyugina</td>
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<td>European University Association (EUA)</td>
<td>John H. Smith, Lidia Borrell-Damian, Thomas Ekman Jørgensen, Alexandra Bitsukova</td>
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<td>European Commission</td>
<td>Massimo Serpieri</td>
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<td>Cees Vis</td>
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<td>European Molecular Biology Organization (EMBO)</td>
<td>Anne-Marie Glynn, Gerlind Wallon</td>
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<td>European Platform of Women Scientists (EPWS)</td>
<td>Maren Jochimsen</td>
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<td>Contact Office for European Research, Innovation and Education (SwissCore)</td>
<td>Maryline Maillard</td>
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### Coordinators

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<td>European Science Foundation</td>
<td>Laura Marin, Neil Williams</td>
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Aims: Launched in November 2007, the ESF Member Organisation Forum on Research Careers serves as a joint platform for the exchange of views and experience and for the development of strategy concepts to be applied at national and supranational level. It provides an interface for ESF Member Organisations, the European Commission and universities in Europe represented by the European University Association and the League of European Research universities.

Objectives: The ESF Member Organisation Forum on Research Careers seeks:

• to develop a road map for research career development in Europe and by this means
• to create new and improve existing European-level, including coordinated national, policies and programmes aimed at promoting different career stages; and
• eventually to raise the international visibility of the ERA as a common labour market for researchers.

Actions: The outcomes of the mapping exercises and identification of good practices are built around those subgroups. The Forum has worked out an implementation plan which will form the backbone of its future activities. We have identified five fields in which we think joint actions have to be taken:

• structuring of research careers;
• improving the attractiveness and competitiveness of European research careers;
• providing ‘equal playing fields’ for researchers of all backgrounds;
• supporting the development of ‘portfolio careers’;
• developing and implementing European policies for research career development.
Working Group 1:
Conditions of a Research Career in Europe

SG 1A: Research Career Structure and Development
(Chair: Eero Vuorio)

SG 1B: Gender Issues
(Chair: Susanne Matuschek)

Working Group 2:
Human Resources Development

Transferable skills
(Chair: Iain Cameron)
SG 1A on Research Career Structure and Development focused on six topics:
• Attractiveness of a research career;
• Harmonisation of career steps;
• Job status (fellowships versus salaries, open-ended versus fixed-term contracts);
• Career breaks due to intersectoral mobility (academia ↔ industry ↔ public sector);
• Predictability of research career (tenure track system) and
• Independency/autonomy.

Subgroup 1B on Gender Issues identified four topics:
• Leaky pipeline;
• Maternity/paternity/parental leave;
• Career breaks due to family reasons;
• Equal playing fields.

Working Group 2 on Human Resources Development elaborated the following key points with a special focus on the provision of transferable skills:
• Government or other policy makers in each country, when it started, what is expected and how it is implemented;
• Which aspects of transferable skills are included;
• Which organisations are responsible for delivering the agenda in each country and how they interact with each other and the research base (universities, research organisations etc.);
• The particular policy and role of the research councils or other ESF Member Organisation.
Subgroup 1A on Research Career Structure and Development “..would like to draw the attention of all parties involved in improving European research careers to the following areas, where European research careers need development throughout the member organisations and ministries in their home countries”:

• Taxonomy of research career steps and degrees throughout Europe;
• Increased transparency of career paths;
• Need for a better knowledge-base of research careers;
• Networks of junior investigators;
• Handbook for researchers.

Subgroup 1B on Gender Issues “...recommendations to ESF and its Member Organisations to”:

• introduce gender equality targets and measures in their peer-review criteria;
• implement measures for an increase of applications from women researchers;
• establish permanent and public monitoring...;
• offer better predictability and security especially for women and single parents...

non ci interessa direttamente (forse)

inoltrato a Comitato Pari Opportunità
Conclusioni WGs

Working Group 2 on Human Resources Development “...provided a snapshot of European opinion on the state of policy with respect to transferable skills within doctoral programmes. It offers a definition of transferable skills and an agreed list of the transferable skills important to funding organisations and, through the comments of respondents, offers an insight into the state of policy in Europe.”

Definition of transferable skills in a research context

“Transferable skills are skills learned in one context (for example research) that are useful in another (for example future employment whether that is in research, business etc). They enable subject- and research- related skills to be applied and developed effectively. Transferable skills may be acquired through training or through work experience”

catalizzatori per sostenere la mobilità e lo sviluppo di portfolio careers
“...given the global competition for talent, Europe needs to remain competitive in attracting the brightest and most creative researchers as well as in training and developing the next generation of researchers”
“...we see an urgent need to adopt a common strategy to ensure the attractiveness of research careers in Europe as a whole”

**Structuring of research careers with the help of a joint taxonomy**
- formation of a working group by the Research Careers Forum incorporating representatives from universities, the European Commission and businesses to work out a joint taxonomy for research careers in the public and the private research sector
- invite the EURAXESS network under the auspices of the European Commission to produce the proposed ‘Handbook for Researchers’

**Improving the attractiveness and competitiveness of European research careers**
- we propose that the EC include experts from the Research Careers Forum in order to benefit from the joint knowledge and experience of research organisations in Europe
- we suggest the formation of a working group (...) with the aim of analysing and advancing ESF Member Organisations’ programmes for research career development

**Providing ‘equal playing fields’ for researchers of all backgrounds**
- we propose the formation of a working group by the Research Careers Forum in cooperation with the ESF MO Fora on Peer Review and Evaluation of Funding Schemes with the aim of preparing a new scientific quality approach (integrating a gender equality strategy) to be built on firm scientific quality standards.

**Supporting the development of ‘portfolio careers’ by introducing a joint skills statement**
- invite the ESF and its MO to adopt the joint skills statement and to provide the (financial) means for continuous professional development addressing researchers at all career stages
- we stipulate the formation of a working group by the Research Careers Forum in cooperation with the Forum on Evaluation of Funding Schemes and Research Programmes with the twofold aim of conducting a training-needs analysis and to study the impact of transferable skills on researchers’ career development in the public and the private sector
- we encourage ESF and EUROHORCs to establish and take ownership of the European Alliance for Research Career Development which should build on the competence and experience of the ESF Member Organisation Forum on Research Careers.
ESF Member Organisation Forum “European Alliance on Research Career Development”

Forum’s Mission

To make sound and implementable recommendations in order to make Europe an attractive place to work as a researcher.

Forum’s Strategic Context

This Forum addresses the implementation of Action Number 2 of the “EUROHORCs and ESF Vision on a Globally Competitive ERA and their Road Map for Actions” on Promoting European Research Careers.

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<th>WG1: Taxonomy</th>
<th>WG2: Skills</th>
<th>WG3: Mobility</th>
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<tr>
<td>• Way to proceed:</td>
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<td>– Joint statement concerning EC Taxonomy</td>
<td>- Validate the skills list by Vitae within the Forum (mid March)</td>
<td>- Policy recommendations:</td>
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<td>– Validation of existing taxonomies: purpose of taxonomies (December 2011)</td>
<td>• Proposal on how to proceed, incl. budget</td>
<td>• Successful policies to facilitate different types of mobilities</td>
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<td>– 2012: Mapping of career tracking survey</td>
<td>– Presentation to EUROHORCs Assembly (April 2011)</td>
<td>• Scientific visa: survey on good practice on how to bring in researchers from 3rd countries</td>
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<td>• Workshop on career tracking experiences (early 2012)</td>
<td>– Pilot project: 6 countries on basis of Vitae Researcher Development Tool</td>
<td>• Peer review &amp; portfolio careers</td>
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<td>• Product: commented bibliography</td>
<td>• Involving universities &amp; RPOs (including links with the private sector)</td>
<td>- Link with Peer Review Forum (Stijn)</td>
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<td>– Dissemination (end 2012): Joint activity with EURAXESS &amp; EC SGHRM</td>
<td>– Products: guidance on provision of professional development opportunities covering all career stages</td>
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<td></td>
<td>• Vision: European Researcher Development Framework</td>
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http://www.esf.org/coordinating-research/mo-fora/completed-mo-fora/european-alliance-on-research-careers-development.html
Reminder

• **Overall objective of WG 2**
  
  Foster better researchers through encouraging continuous professional development for all researchers and through associated guidance to research organisations and funders.

• **Actions**
  
  • Assess the feasibility of a pan-European professional development framework for researchers
  
  • Produce guidance for research organisations and funders on good practice in policy and practice in enhancing researcher skills
  
  • Raise awareness of the importance of continuous professional development for researchers at all career stages
Framework of the knowledge, behaviour and attributes of successful researchers

- Enables self-assessment of strengths and areas for further development
- Common language for researchers' capabilities
Draft recommendations
Researchers

- Use the RDF to assess your capabilities and expertise as a researcher
- Use the RDF to set realistic achievable career goals
- Reflect on the broader aspects of being a researcher
- Use the RDF to articulate your expertise to others
- Validate / benchmark yourself against other researchers

www.vitae.ac.uk
Researcher Development Framework: CPD tool

Several researchers used the tool to create development plans. Here are some of their thoughts...

"Set aside a lot of time, read it carefully and be honest about where you are. Don't worry about the phases - you don't always have to aim for phase 5 but maybe take a look at the other phases and identify shorter term goals that are more achievable than always aiming for the top."  
Margaret Duffell, early career researcher, Centre for Cancer Research and Cell Biology, Queen's University Belfast

"I now have a path that I would like to follow"  
Maria Sharrin, PhD student, Sustainable Conservation Institute (SCI), University of Manchester

"The RDF will encourage me to be more proactive about my career development as it provides me with a framework (list of milestones) that I can judge my current progress in relation to what I want to achieve with my career."  
Joe Yuen, PhD student in the School of Management, University of Southampton

"I would see this [RDF] as a barometer... to give me a bit more clarity about what areas I could develop and what might be most important. It's something I could keep coming back too."  
Anga Dallas, PhD student, Centre for Transport & Society, University of the West of England

"I have a good idea of what's involved with the job I do so it was quite easy mapping that to the descriptors. What we've always tried to do with the postdoc here is to say 'look this is your career and it's your responsibility'. As a new position your emphasis is on working in the lab and getting results and it's easy for career and personal development to fall by the wayside."  
Paddy Naile, Senior Inbrush Senior Academic Fellow in Pharmacology, University of Edinburgh

Please use post-it notes to add your comments about the RDF CPD tool:

www.vitae.ac.uk/rdf

RDF personal CPD tool
The RDF personal CPD tool is a fully downloadable and portable self-reflection tool to support the continuing professional development of researchers. It uses Microsoft Excel as a platform and provides guidance notes and useful resources so that researchers can use it flexibly. Users can save their individual versions at different timepoints to track their own progress and development.

Save and print your report
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<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<th>Evidence to support your current phase</th>
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<tr>
<td>Collegiality</td>
<td>Shows consideration to others. Listens, gives and receives feedback and responds perceptively to others.</td>
<td>Is approachable, demonstrates interpersonal sensitivity. Ensures everyone has a shared understanding.</td>
<td>Keeps people informed of wider institutional issues. Promotes collegiality, regardless of status. Engages in supportive peer review with colleagues.</td>
<td>Exemplar for collegial behaviour in Cascades knowledge. Solicits and attends to feedback from colleagues.</td>
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<td>Team working</td>
<td>Understands own behaviours and impact on others when working in and contributing to the success of formal and informal teams. Appreciates contributions of other team members including non-academic members. Thanks people for their contribution.</td>
<td>Understands leadership in team environments; recognises the strengths of team members and works effectively to achieve mutual goals. Coaches less experienced researchers and students. Gives credit to people for their contribution. Builds support and coalitions to attain goals.</td>
<td>Leads, manages and delegates impartially. Is sensitive to intentions, needs and positions of team members; acts accordingly to achieve success. Manages expectations and resolves conflict. Coaches team members; helps team members clarify their roles and responsibilities. Acknowledges the results of the team. Actively seeks collaborative partners.</td>
<td>Recruits, trains and builds sustainable relationships. Collaborates with key figures/teams.</td>
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## Domain D

### 1. Working with others

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<th>Domain</th>
<th>Current phase</th>
<th>Target phase</th>
<th>Evidence to support your current phase</th>
<th>How will you achieve your objectives?</th>
<th>How will you measure it?</th>
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<tr>
<td>Collegiality</td>
<td>Is approachable, demonstrates interpersonal sensitivity. Ensures everyone has a shared understanding.</td>
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<td>Team working</td>
<td>Understands leadership in team environments; recognises the strengths of team members and works effectively to achieve mutual goals. Coaches less experienced researchers and students. Gives credit to people for their contribution. Builds support and coalitions to attain goals.</td>
<td>Recruits, trains and builds sustainable team; develops staff and facilitates relationships. Collaborates with key figures/teams internationally.</td>
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<td>People management</td>
<td>Develops own management style. Supervises/manages and develops less experienced researchers and students with sensitivity. States clear expectations, clarifies goals and negotiates realistic deadlines so that people know what is expected of them. Sets an example in relation to equality and diversity matters; challenges inappropriate behaviour. Motivates and encourages others.</td>
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<td>Supervision</td>
<td>Provides support and advice to peers and less experienced researchers. Takes on co-supervision role. Welcomes feedback on own supervisory skills.</td>
<td>Encourages the development of autonomy in others. Takes on lead supervisor role. Supports the development of supervision skills in others. Keeps up to date with supervision policy and procedure. Actively seeks feedback on own supervisory skills and techniques; provides feedback for less experienced colleagues.</td>
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<td>Mentoring</td>
<td>Acts as mentor to less experienced colleagues. Helps mentees and other people to see opportunities and take up new challenges. Identifies potential in others; empowers people. Sets challenges but builds and develops confidence; manages the over-confident.</td>
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working group on skills development of researchers - pilot study

• “..with the purpose to better define researchers’ professional profiles and to develop guidance for the continuous professional development of researchers.”

• “..the RDF, offered a promising basis for a common and structured approach towards researchers’ skills development…”

• “..the suitability of the RDF was tested in 6 European countries (Estonia, France, Germany, Italy, Luxembourg, Norway) with different research/cultural/socio-economic settings.”
working group on skills development of researchers - pilot study

A standard process was followed for each country participating in the study:

- Participating countries were asked to sign a licensing agreement regarding use of the RDF
- Institutions identified relevant researchers to participate in the study
- Participating researchers were asked to explore the RDF in advance of the workshop.

Suggested preparative steps included:

1. Read the background and instructions on a website private page
2. Watch the RDF Professional Development Planner screen cast
3. Download the RDF Professional Development Planner (PDP) and use it to:
   A. Explore the content of the RDF
   B. Identify strengths and areas for professional development (they could chose to complete the whole RDF or just a few areas)
   C. Create a personal action plan for your professional development
4. Explore the additional the RDF resources on the Vitae website

Semi-structured focus groups were then held in each participating country to gather feedback on the overall content of the RDF and value of professional development planning.
Appendix 4: Focus group participants

Summary of participants:

Number of participants: 61
Number of institutions: 19

European Framework of Research Careers
Participants’ career stages have been categorised by the European Framework of Research Careers:

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)
Recommendations

There are big differences between countries in their overall awareness and readiness to engage and invest into the general development and career development of researchers. Furthermore, there is a real demand among researchers for a more structured approach towards researcher’s professional development and active career planning.

Recommendation 1 (overall)

Concerted efforts must be made by policymakers, governments, funders and research performing organisations to promote the concept and importance of researchers’ professional development targeted at all levels of the hierarchy of research management, from political leaders, heads of research organisations, academics to the researchers themselves.

The creation of a European Researcher Development Framework would provide a single European language describing researchers’ skills and attributes and thereby facilitate mobility. A European Researcher Development Framework would contribute to the concept of the European Researcher, meet the objectives of the European Charter for researchers and to the build-up of the ERA. A European Researcher Development Framework could be implemented by already existing channels at a European level such as the EURAXESS.

Recommendation 2 (EU level)

The European Commission should consider investing in making available a pan-European Researcher Development Framework to promote the importance of the professional development of European researchers, to guide them in their reflections on their skills and attributes, their developmental needs and on their role as a researcher in general.
**Recommendation 3**

As a first step, the European Commission should support a wider independent trial of the RDF at European/institution/national level that includes research performing organisation directors, human resources specialists etc. as well as researchers and consider any possible country/institution-specific constraints towards researchers’ professional development (e.g. national legislative barriers, etc.).

**Recommendation 4 (national and institution level)**

Governments, research funders and research performing organisations should work together to offer researchers at all career levels adequate training and development means to actively expand their profile and progress in their career. Numerous countries/institutions do not have appropriate supporting structures regarding researchers’ development i.e. adequate training opportunities, career advice services, etc.

**Recommendation 5 (individual researcher)**

Researchers across Europe should take responsibility for their own professional development and reflect how to improve their own career possibility by using for example using a tool like the suggested European Research Development Framework for a more in depth analysis of their own competences and expertise as a researcher and their specific career development needs.
parole chiave

- uniformare i modelli di carriera scientifica
- sostenere uno sviluppo continuo con
  - strumenti di supporto
  - iniziative di formazione
  - mobilità (tra nazioni e/o discipline)
  - competenze trasversali (o trasferibili)
- valutazione
  - complessiva (e.g. dei programmi di formazione)
  - del singolo (autovalutazione)
About Us

Science Europe is an association of European Research Funding Organisations (RFO) and Research Performing Organisations (RPO), based in Brussels. Its Founding General Assembly took place in Berlin in October 2011.

Mission

Science Europe promotes the collective interests of the Research Funding and Research Performing Organisations of Europe. It supports its Member Organisations in their efforts to foster European research. It will strengthen the European Research Area (ERA) through its direct engagement with key partners. In doing so it will be informed by direct representation of all scientific communities in its reflections on policies, priorities and strategies.

It works and partners with other entities such as the European Universities, the European Academies, the European Scientific Intergovernmental Organisations and the European Commission to develop a coherent and inclusive ERA. In its structures and actions it ensures that it takes into consideration the interests and opinions of researchers in all European research systems.

Science Europe will:

- Support the work of its Member Organisations and promote co-operation between them both at policy and activity level;
- Establish the scientific community as a third voice in the ERA, together with national government and the European Commission;
- Act, with the interests and expert views of researchers as a guide, to maximise the input of the Member Organisations in the development of the ERA in conjunction with the European Commission;
- Work with other European organisations to ensure that a broad based forum is established to inform discussions on ERA and related policy matters;
- Provide a platform for dialogue with national ministers of research;
- Co-operate with non-European research organisations; and
- Deliver a coherent plan of action to ensure that publicly funded research and innovation in Europe has the maximum impact, contributing to the development of the economy and providing solutions to deliver societal benefit.
Member Organisations

Membership

Science Europe is fully funded by its Member Organisations. Member Organisations are Research Funding and Research Performing Organisations within European countries. Members should have substantial and significant impact on their national research system and budget. They should be primarily funded through national public funding, but should also have substantial operating independence from their National Government.

Seven organisations acted as founding members of Science Europe in September 2011 (DFG, the German Research Foundation; ESRC, Economic and Social Research Council; ETAG, Estonian Research Council; FWO, Research Foundation Flanders; FNRS, Fund for Scientific Research; ARRS, the Slovenian Research Agency; and SNSF, the Swiss National Science Foundation).

At present Science Europe comprises 53 Research Funding and Research Performing Organisations from 27 countries, representing around €30 billion per annum.
The Global Research Council has a long-term objective of fostering multilateral research and collaboration across continents to benefit both developing and developed nations.

GRC Annual Global Meeting
2013

The second Annual Global Meeting was hosted jointly by Brazil and Germany on 27 - 29 May 2013 in Berlin.

European regional meeting of the Global Research Council (GRC) on 30 October 2013

Science Europe and the French National Research Agency (ANR) are organising the European regional meeting of the Global Research Council (GRC) on 30 October 2013.

The meeting will be hosted by the French National Research Agency (ANR) in Paris. The meeting will serve as preparation of the 3rd GRC Annual Meeting in 2014 in China (www.globalresearchcouncil.org/meetings/2014-meeting) and will address the following topics:

- Open Access – follow up to the approval of the GRC Action Plan towards Open Access to Publications at the 2nd GRC Annual Meeting in Berlin last May
- "Funding the future of science" – support towards early stage researchers

The meeting is upon invitation only and intended for working level experts from Science Europe Member Organisations and partner organisations in Europe dealing with Open Access to Publications and Research Careers.
The Global Research Council is a virtual organization, comprised of the heads of science and engineering funding agencies from around the world, dedicated to promoting the sharing of data and best practices for high-quality collaboration among funding agencies worldwide.

The worldwide growth of public support for research has presented an opportunity for countries large and small to work in concert across national borders. Cooperation and collaboration can enhance the quality of science, avoid unnecessary duplication, provide economies of scale, and address issues that can only be solved by working together. Heads of research funding agencies have a responsibility to meet these objectives on behalf of the research community.

The Purposes of the Global Research Council are:

1. To improve communication and cooperation among funding agencies;
2. To promote the sharing of data and best practices for high-quality research cooperation;
3. To provide a forum for regular meetings of the Heads of Research Councils;
4. To respond to opportunities and to address issues of common concern in the support of research and education;
5. To be a resource for those institutions wishing to build a world-class research landscape; and
6. To explore mechanisms that support the global science enterprise and the worldwide research community.
4. Le risorse umane
   4.1 Efficacia ed efficienza nel modello di alta formazione a tre livelli
   4.2 Un dottorato di ricerca innovativo per un Paese innovativo
   4.3 Un quadro unico delle carriere della ricerca per favorire la mobilità intersettoriale
   4.3.1 Strumenti per lo sviluppo professionale dei ricercatori
   4.3.2 La ‘terza missione’: nuovi profili per nuove professioni
   4.4 Gender in science: le donne nella ricerca
   4.5 La valorizzazione del ruolo del ricercatore: comunicazione, condivisione e ricadute sociali della ricerca

5. Le risorse finanziarie: risorse per cambiare, cambiare per crescere

Appendici
   Appendice A
   Alcuni dati sulla Ricerca e Innovazione

   Appendice B1
   L’esito dei bandi per i distretti e i cluster tecnologici

   Appendice B2
   L’esito dei bandi Smart cities and Communities e Social Innovation
approfondita sul rapporto tra i tre cicli ed in particolare sul ruolo del titolo di I ciclo (laurea). In molti casi, occorre procedere ad una rivisitazione di quest’ultimo, (ri)definendone i saperi minimi essenziali per una robusta formazione di base e chiarendone obiettivi formativi e sbocchi professionali.

Se uno degli indicatori di successo nella costruzione della Unione dell’Innovazione è la percentuale della popolazione di età compresa fra 30 e 34 anni con un livello d’istruzione terziario, le università italiane non possono ignorare che la situazione corrente (Grafico 9) è del tutto insoddisfacente. Un’azione da intraprendere celermente è quella di incrementare l’indipendenza e la discontinuità tra lauree e lauree magistrali, consentendo quel-la ‘mobilità verticale’ (prevista peraltro dal D.M. 270/2004, ma poco attuata dalle università) nel passaggio tra e il ciclo, che sola rende possibile una formazione più aperta e interdisciplinare, ma al tempo stesso restituisce al I ciclo una sua autoconsistenza di percorso, con sbocchi lavorativi chiari.

Proprio per questo, la capacità delle università di assicurare carattere non formale agli organismi di consultazione con il tessuto produttivo, previsti già dal D.M. 509/1999 e poi dal D.M. 270/2004, ma che risultano talora addirittura non costituiti o, dove lo sono, comunque circoscritti a mera ritualità, costituirà parte integrante dei parametri di valutazione del processo e del prodotto è testimoniata nella maniera più efficace e concreta dall’impiego delle apposite risorse comunitarie per sostenerla finanziarmente.

Da quanto dettagliato sopra, discende l’esigenza di una evoluzione del sistema delle ‘borse ministeriali’ per il dottorato di ricerca. L’esistenza infatti, nelle istituzioni che si candidano ad essere sede di formazione dottorale, delle condizioni ‘ambientali’ necessarie e sufficienti a garantire la qualità del processo e del prodotto è testimoniata nella maniera più efficace anche dalla presenza di ricercatori capaci di assicurarsi competitivamente le risorse necessarie a svolgere qualificata attività di ricerca e dunque a sostenere il finanziamento di posizioni dottorali. Inoltre, la ‘percezione’ dell’importanza della formazione dottorale per lo sviluppo e la specializzazione intelligente dei territori da parte delle regioni è dimostrata in maniera concreta dall’impiego delle adatte risorse comunitarie per sostenere finanziarmente.

Ciò premesso, si prevede comunque che parte delle risorse di HIT 2020 vengano destinate al sostegno di programmi di formazione dottorale di particolare ed originale significato, identificati come tali attraverso bandi nazionali, congiunti o comunitari.

Il rispetto puntuale dei Principi qui ricordati faciliterà l’integrazione della formazione dottorale svolta nel nostro Paese con quella degli altri Paesi dell’Unione e contribuirà in tal modo alla realizzazione dello Spazio Euro-
4.3 Un quadro unico delle carriere della ricerca per favorire la mobilità intersettoriale

Tra gli ostacoli di varia natura che si frappongono alla mobilità intersettoriale, un ruolo non secondario (oltre alla iperframmentazione dei settori scientifico-disciplinari in ambito universitario) è esercitato dalla disomogenità delle carriere e dei profili. Le indesiderabili conseguenze di questa barriera sono state messe in luce da organizzazioni quali la European Science Foundation (ESF), la League of European Research Universities (LERU), la European University Association (EUA), il Combe Group, l’European Council of Doctoral Candidates and Junior Researchers (EURODOC) e la European Industrial Research Management Association (EIRMA).

Da qui la necessità di sviluppare una classificazione dei diversi ‘profili’ di carriera che sia totalmente indipendente da discipline e settori e possa indifferenziatamente applicarsi all’alta formazione come alla ricerca, al pubblico come al privato e l’opportunità d’introdurre, anche in Italia, un Quadro Comune di Riferimento per le Carriere della Ricerca (QRCR), che consenta la massima ‘interoperabilità’ fra settori e discipline, sul modello di quello recentemente sviluppato a livello europeo,23 così da abilitare il sistema nazionale ad interfacciarsi senza cesura sia all’interno, sia con quello degli altri paesi dell’Unione.

In coerenza con il Quadro definito a livello europeo (European Framework for Research Careers) e con il criterio della sua ‘applicabilità universale’, il QRCR identifica 4 soli profili per le carriere della ricerca, così definiti:24
- R1 (First Stage Researchers, fino al completamento del dottorato),
- R2 (Recognised Researchers, dottori di ricerca o equivalenti, che non hanno ancora conseguito la piena indipendenza ed autonomia);
- R3 (Established Researchers, che hanno conseguito autonomia ed indipendenza);
- R4 (Leading Researchers, che sono punti di riferimento nel rispettivo ambito).

Il QRCR sarà utile anche alle Autorità che esercitano funzioni d’indirizzo e controllo sul sistema della ricerca e dell’innovazione: a livello centrale, il MIUR e il MISE, senza escludere, in prospettiva, una partecipazione ed un concerto con le Regioni, nel quadro della strategia di smart specialization. Esse potranno così programmare meglio le strategie volte alla formazione dei ricercatori, che convergono con gli obiettivi di R&I nazionali e regionali e sintetizzano domanda ed offerta, ottimizzando i livelli occupazionali, sia in assoluto, sia rispetto agli altri paesi dell’Unione.

Il QRCR infine avrà un impatto positivo anche sugli studenti che hanno

24 I descrittori, le competenze riferite a quelle assegnate per i profili sono consultabili nell’ allegato del citato documento.
intenzione d'intraprendere il percorso delle carriere della ricerca, permettendo, attraverso un panorama comprensibile e trasparente delle competenze richieste ai vari livelli, una critica autovalutazione dei talenti e delle inclinazioni. Adeguateamente promosso e comunicato, il QRCR diventerà uno strumento per diffondere nella società nazionale un messaggio chiaro sul ruolo dei ricercatori nello sviluppo intelligente del Paese e per attrarre verso il sistema italiano i talenti disponibili sul mercato internazionale della ricerca che, attualmente, come si è visto (Cfr. Par. 1.1) in misura molto modesta prendono in considerazione il nostro Paese per intraprendere una carriera nella ricerca o progettare nella stessa.

In conclusione, nell’ambito di HIT 2020 si si attende che tutte le organizzazioni private e pubbliche che impiegano ricercatori (imprese, amministrazioni, enti di ricerca, università) e gli enti, privati e pubblici, che finanzianno attività di ricerca, adottino il QRCR e ad esso facciano riferimento nelle rispettive attività, in particolare in quelle legate alle procedure di reclutamento e di progressione nella carriera.

La Commissione Europea ha dato il buon esempio, introducendo i profili del QRCR nella piattaforma EURAXESS Jobs, dove vengono pubblicate le offre di lavoro ed i bandi per progetti. È probabile che, dal 2014, al QRCR si faccia riferimento anche negli strumenti di finanziamento collegati al programma europeo Horizon 2020.

### 4.3.1 Strumenti per lo sviluppo professionale dei ricercatori

L’auspicata omogeneità delle carriere e dei profili nelle varie discipline, e trasversalmente nel settore pubblico e privato, porterebbe, come anticipato all’inizio del paragrafo, a minimizzare più ampie e flessibili nello sviluppo delle carriere, che si caratterizzano sempre più come ‘carriera portfolio’ collezione di esperienze professionali e formativa, eventualmente disomogenee, ma auspicabilmente complementari, che daranno vita a profili di competenze non più necessariamente ricordabili a modelli predefiniti. Significativamente, la recente Consultazione Pubblica ha confermato come l’intenzione e l’integrazione fra discipline diverse siano considerate, da numerosi ricercatori che hanno partecipato a questo esercizio, tra i fattori maggiormente decisivi per mantenere e incrementare la competitività del sistema della ricerca (Inserto 2).

Anche in questo contesto di accentuata flessibilità e nonostante lo sviluppo non più lineare della propria carriera, per il ricercatore deve rimanere possibile favorire il posizionamento delle sue competenze rispetto ad una schematizzazione di riferimento che riunisca e presenti in maniera organizzata le conoscenze, i comportamenti e le qualità di un ricercatore, in relazione ai profili citati in precedenza.

Questa necessità è già stata intercettata dalle organizzazioni europee sopra menzionate che si sono attivate con iniziative specifiche. Una proposta interessante è ennesima tra i risultati di un gruppo di lavoro1 impiegato nel la definizione di un framework per lo sviluppo professionale dei ricercatori che prende spunto dal Researcher Development Framework (RDF) proposto dall’organizzazione britannica Vitae.

Il RDF è un modello di riferimento pensato per pianificare, promuovere e sostenere lo sviluppo personale, professionale e di carriera dei ricercatori delle università e degli istituti ed enti di ricerca, indipendentemente dalla disciplina scientifica in cui operano. Rappresentati da corrispondenti ‘descrittori’, il RDF riunisce, organizzati in domini e sotto-domini, le conoscenze, i comportamenti e gli attributi riconoscibili tra le caratteristiche del ricercatore e incoraggia tutti i ricercatori ad aspirare all’eccellenza e alla creazione del loro potenziale, impegnandosi nello sviluppo professionale.

Il RDF è stato concepito per:
- consentire ai ricercatori di valutare e pianificare il loro sviluppo personale, professionale e di carriera,
- guidare i responsabili delle attività di ricerca e i supervisori dei ricercatori nel loro ruolo di sostegno allo sviluppo dei ricercatori,
- formare i formatori, cioè i responsabili per le risorse umane nelle istituzioni di ricerca, nella progettazione ed erogazione di opportunità per lo sviluppo professionale dei ricercatori,
- consentire ai giovani interessati a diventare ricercatori di valutare in modo completo le prospettive di una carriera scientifica.

Sono evidenti i punti di contatto (ed anche alcune sovrapposizioni) fra il RDF ed il QRCR, ma nel RDF, il ricercatore dispone di uno strumento specifico, il Professional Development Planner (PDP), per la pianificazione e lo sviluppo continuo delle proprie competenze nelle varie fasi della carriera. Lo stesso strumento può eventualmente essere d’aiuto alle stesse organizzazioni.

Voci (enti di ricerca, università, etc.) come ausilio allo sviluppo delle strategie di formazione, potendo utileizzare sia per intercettare la domanda formativa, che per valutare i benefici.

Le iniziative che, in questa direzione, verranno intraprese nell’ambito di HIT 2020 potranno trarre vantaggio da questi risultati, usandoli come riferimento, o facendoli propri qualora la loro applicazione fosse promossa dagli organi Comunitari.

Il Vito RDF2 è strutturato in quattro settori che presentano i descrittori della conoscenza, delle capacità intellettuali, tecniche e standard professionali per gli operatori della ricerca, così come le qualità personali, le conoscenze e le competenze per lavorare con gli altri e garantire l’impatto più ampio della ricerca.

A questo proposito la disponibilità continua di opportunità e di adeguati strumenti di formazione assume una notevole importanza. Mentre la formazione specifica nelle varie discipline è parte integrante dello sviluppo professionale di ogni ricercatore e, come è noto, è prevalente mente su questo aspetto che attualmente si sviluppa il percorso di crescita professionale, lo sviluppo di competenze complementari ed eventualmen te transferrabili consiste in introduzione nel profilo professionale dei ricercatori un catalizzatore dei processi di mobilità interdisciplinare e interorganizzativo e un facilitatore delle iniziative di collaborazione tra ricerca knowledge driven e ricerca technology driven (ESF MO-Forum Research Careers Report).

Competenze in organizzazione, finanziamento e impatto delle attività di ricerca, gruppi leadership, e le già menzionate communication and dissemination skills dovranno completare, con il prospetto della carriera, il bagaglio culturale di ogni operatore della ricerca.

Il valore di ognuna di queste competenze complementari non sarà in se stesso, ma potrà essere misurato indirettamente dall’accessibilità capacità del ricercatore di approfittare spontaneamente delle opportunità che si potranno presentare durante la carriera o con la rapidità con cui queste transizioni raggiungeranno la massima efficacia.

Altrettanto importanti saranno le esperienze di collaborazione interdisciplinare o intersettoriale che, oltre ad avere uno degli obiettivi del processo di rinnovamento delle carriere scientifiche, rappresenteranno esse stes si un’opportunità formativa per i singoli e di crescita per le loro comunità.

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2. 76 The European Science Foundation Member Organisation Future Report Il per European professional development framework for researchers. ESF MO-Forum on European Alliance on Research Careers Development: http://www.esf.org/activities/-/mo-forum/european-alliance-on-research-careers-development.html
3. 77 Vitae (2011), Advisory Centre (CRAC), Cambridge, UK: http://www.vitae.ac.uk/hit
4. 78 ESF MO-Forum Research Careers Report. Competenze in organizzazione, finanziamento e impatto delle attività di ricerca, gruppi leadership, e le già menzionate communication and dissemination skills dovranno completare, con il prospetto della carriera, il bagaglio culturale di ogni operatore della ricerca.

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Commenti finali

• ESF+Science Europe: esperienza interessante/produttiva ? → SI
  • confronto internazionale del nostro (INFN) modo di concepire/supportare la ricerca e i ricercatori
  • (aiutare a) introdurre una visione europea e buone pratiche nel sistema nazionale

• importanza del ruolo dei ricercatori (carriera, formazione, ..)
  • aumentare l’interesse dei migliori ricercatori per il mondo della ricerca
  • creare le basi per favorire e trarre benefici dalla mobilità (discipline, settori, stati)
  • formazione, valutazione, auto-valutazione

• INFN, cosa/come applicare le buone pratiche e come valorizzare quanto già facciamo !
  • iniziative permanenti di tracking e valutazione interna
    • GLV: tracking dottorandi e laureandi
  • supporto e “valutazione” della formazione (dip. + ass. ?)
  • mettere in evidenza le capacità formative dell’INFN (per la valutazione e non solo)
  • supporto alle iniziative di trasferimento tecnologico/competenze dell’Ente

• Italia: HIt2020, PNR, semestre Italiano di Presidenza UE
  • roadmap verso una ricerca più attenta alle esigenza del Paese