

ESF Exploratory Workshop on

**HUMAN RESOURCES FOR RESEARCH:
PERSPECTIVES AND TENDENCIES FOR
RESEARCHERS' CAREER,
EXPECTATIONS AND JOB SATISFACTION
IN THE EUROPEAN
RESEARCH AREA**

Rome (Italy), 26-27 April 2010

Convened by:

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Roma, Italy

SCIENTIFIC REPORT

Executive summary (2 pages max)

The workshop "*Human resources for research: perspectives and tendencies for researchers' career, expectations and job satisfaction in the European research area*" aimed to explore the state of play of scientific policies of individual European countries and tried to clarify the limits of individual national research systems to achieve the aim of creating the European Research Area. Further the objective of the meeting was to propose a critical reflection on traditional indicators of development of scientific careers (from EU, and other OECD institutions), the innovative nature of the workshop was to pay particular attention to the expectations system and researchers motivations towards scientific work and development of careers in research.

Expectations and motivations of researchers could not be ignored analysing the process of scientific careers in Europe. The workshop focused on internal factors of human resources in R&D: work environment, transparency in career, consistency between education and job content, confidence in the system evaluation. It have been very interdisciplinary reflecting the wild contribution to the research field of human resources in science and technology. Studies of Human Resources in S&T are placed across more disciplines and the interdisciplinary guided the selection of workshop participants and speakers, assuring a balance between sociologists of science and education, economists and trainers.

The workshop has been organised around four more themes, corresponding to the four main sessions:

- **Session 1:** Strengths and Weaknesses of Higher Education and Scientific job in ERA process
- **Session 2:** Dynamics of scientific careers in Europe: which role of motivation expectation and job satisfaction
- **Session 3:** The challenges of European higher education
- **Session 4:** Mobility in ERA: Barriers and fences from the national scientific systems

Presentations have been focussed on analysing the major dimensions that prevented the creation of the European Research Area. In particular, it many intervention analysed the factors that prevent the creation of a common European Research Area, highlighting the differences between systems of higher education and research in Europe, to try to define common lines of action.

2. Scientific content of the event (1 page min.)

The workshop started with the welcome of the convenor **Sveva Avveduto**, director of Institute of Research on Population and Social Policies, and with a short presentation by the ESF representing (Standing Committee for Social Sciences) **Sarah Moore**.

The first presented paper was delivered by **Alberto Amaral**, *Centre for Research in Higher Education Policies, Matosinhos, Portugal*. The paper focused on problems of the so called soft law mechanisms, including the “open method of coordination” (OMC) in the European Union in the implementation of European initiatives on higher education: the Bologna process and the European Research and Innovation Area (ERA) in the framework designed by the Lisbon Strategy.

On the Bologna process Alberto Amaral argued that “to monitor progress towards its objectives the Bologna process uses a number of soft law type tools, including reports or studies conducted by consultative members of the BFUG, which include the EUA ‘trends reports’ and the ESIB studies Bologna with Student Eyes, stocktaking reports and scorecards, national reports on the implementation progress and, more recently, national action plans imported from the Lisbon strategy. The focus of the analysis is dependent on the institution undertaking the study. The EUA trends reports usually focus on the leadership of higher education institutions, and the ESIB reports have been drawing the attention to issues, such as the social dimension, that were given less consideration by the Bologna process.”

Amaral argued that the implementation of ERA introduced some tools to improve working conditions and career prospects, of European researchers and to make competition for recruitment more transparent. In 2005 the European Commission presented a proposal for “The European Charter of Researchers” and “The Code of Conduct for the Recruitment of researchers”. However, the results of the Public Consultation on the Green Paper “The European Research Area: New Perspectives” show that less of half of the respondents declare they are sufficiently aware of the Charter and Code (C&C) and 55.4% of the respondents agree that “The voluntary nature of the C&C means that its principles are unlikely to be adopted with sufficient rapidity to become a genuine factor for European research careers”. Despite this conclusion, many respondents underline that a mandatory C&C would be difficult to implement in industrial R&D organisations and a number of respondents express preference for the voluntary nature of C&C.

In the end, the Alberto Amaral paper underlines that the implementation of European policies using soft law instruments – EAHE, Lisbon strategy and ERA – seems to present some difficulties, namely at the level of coordination. For instance, it is referred that the research policy OMC “had only given rise to a limited amount of policy coordination, and recommended an strengthening the OMC through more focus on policy coordination”. In higher education European policies have not always been consistent. A recommendation of the Council of Europe to member states on the research mission of universities of 30th March 2000 sounds like a passionate revival of the Humboldtian University.

The second paper presentation was delivered by **Stefano Boffo**, *University of Naples, Italy*, and entitled “*Helpful for the advancement of knowledge? Roots, limits and problems of prevailing methods in research assessment*”. The presentation addressed the transition from the traditional way of producing knowledge, the so-called Mode 1, characterized by its hierarchic feature as well as by the protection and separation from the society and the new way of producing knowledge called Mode 2. This latter mode is characterized by different new elements. Strong integration with the outside world and other elements such as transdisciplinarity, heterogeneity of competences, plurality of organizational models, variety

and differentiation of the centers of production, non-hierarchization of the structures, high transparency as well as widespread quality assessment systems.). Boffo argued that it is therefore not by chance that this new model has gone along with an exponential increase of those producers placed outside the public system: industrial laboratories, “think tanks”, consultancies and technology transfer structures, incubators, spin-off centers etc. All these have become new and not at all secondary actors in the development recorded in a given field of knowledge. Boffo’s paper shows how these perspectives and changes also massively affect the field of evaluation of research and of its tools. Assessment becomes a strategic means of affirmation for the perspective of the New Public Management, and its benefits are usually taken for granted and remain unquestioned. But, as observed, “audit technologies being introduced into higher education and elsewhere are not simply innocuously neutral, legal-rational practices: rather, they are instruments for new forms of governance and power” Boffo concluded the paper his presentation saying how the “the tools dominating today are not suitable to really support the variety and the wealth of forms and conditions in which knowledge can be created. On the contrary, they risk being inconsistent and inhibiting for a society, as the contemporary one, that wants to be founded precisely on the good called *knowledge*. We should therefore unchain our fantasy”.

The afternoon of the first meeting day proceed with a brief introduction of **Pedro Nuno Teixeira**, *Centre for Research in Higher Education Policies, Matosinhos, Portugal* on the marketization trends in European Higher Education and its impacts for research careers in the ERA. Pedro Teixeira shows how in many European countries, the backbone of the research system continues to be their higher education systems. Higher education institutions are therefore a privileged employer of researchers in many parts of the ERA, both directly as academics, and through a multitude of research units that exist in the institutional perimeter of those higher education institutions. Thus, a reflection about research careers in the ERA should devote some attention to major trends in the European higher education landscape and its impacts for research careers in Europe.

Javier Vidal, *University of Leon, Spain*, discussed an interesting presentation entitled “*Rise of scientific vocation*”. In particular he showed the characteristic of the educational system in Spain from an inside view being the former high level functionary for University in the Spanish Ministry of Education. He underlined that investments in research will raise the demand for researchers: about 1.2 million additional research personnel, including 700 000 additional researchers, are deemed necessary to attain the objective.

After discussing data related to the human resources in science and technology in Europe and in particular in Spain, he clarified some turning point. First of all, he discussed the problem related to the private e public sector. He argue that the distribution of researchers shows that in the EU there are more researchers in the public sector than in other key regions. So, one of the goals to solve the unbalance is to increase the number researchers in the private sector. However, it seems that most of the analysis to improve the research career are focused on the public sector. In the public sector, the improvement of the research career has many issues in common with human resources management: salary, promotions, etc. In the private sector, what is needed is to create conditions for the improvement of the R&D activities. If so, the research positions in the private sector should

increase and improve. The second point is related to scientific training and doctorate: there are very broad definition of researcher within the ERA. In other words, Vidal underlined the question “are the doctoral programs developing the profile of researchers we are looking for? Is it possible to think that there are different profiles of researcher and that we have to find alternatives to the doctoral training?” The third point is about the stages of scientific careers and the participants discussed the model that shows the sequence of 4 steps:

- 1 – Doctoral Training Internship
- 2 - Post-doctoral internship
- 3 - Independent Research Internship
- 4 - Established Researchers

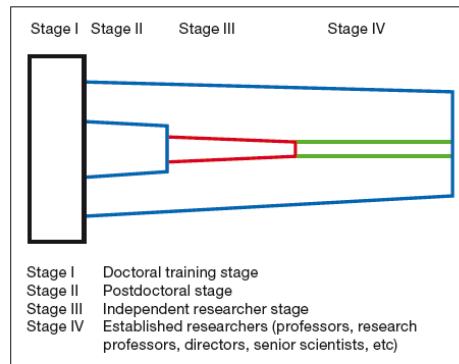


Figure 1.2. Schematic presentation of a four-stage research career

Obviously, it is necessary to observe the model applicability in the specific national context, taking into particular account the disciplinary sector and the economic structure of the scientific system of reference. In conclusion, Vidal discussed the Spain situation, characterized by the reform of doctoral studies and new law of Science, Technology and Innovation, concerning Scientific career, mobility, public and private institutions, Universities, research centers and public administrations. To open the discuss, Vidal proposed a series of interesting questions about the problem of scientific vocations: the problem is the rise of scientific vocation or do we have to concentrate our efforts on increasing the offer of scientist by the educational system or the demand of scientists by the labor market? To what extent the increase of the public sector will help to reach a more competitive economy? Do we have to concentrate the efforts to improve researchers training only on improving doctoral programs? When we try to analyze the “scientific career” are we also talking about non scientific or technological fields? Whom is mobility is good for?

After this last presentation, there has been a general discussion about the wide themes discussed during the day. In conclusion, the Convenor invited all of participants to prepare the statement for the final round table and closed the session.

Second Day - Morning session: The challenges of European higher education

The morning session of second day, introduced by **Leonardo Cannavò**, highlighted topics related to the challenges of European higher education.

The work presented by **Barbara Khem**, *International Centre for Higher Education Research Kassel, Kassel, Germany* broadened the topic about higher education system in the ERA. In particular, the aim of her work was to highlight tensions, links and effects on scientific carriers. First of all, she showed weaknesses and criticisms of the doctorate course in Europe. Currently there is an ongoing debate whether young people in the phase of getting their doctoral degree should be regarded as students or as junior researchers at the

beginning of their professional career. The starting point of the reflection is that increased number of doctoral degrees awarded has led to differentiation of models, and in particular there are two main distinct types of models: research doctorate and professional doctorate. The proliferation of types and models for doctoral education does not provide to more transparency which is one of the goals of the Bologna Process reforms. In Europe there are three different concepts about "what is a PhD". In the first concept the doctoral education is oriented to a discipline and the research work consists in the acquisition and critical discussion of highly specialised knowledge.

The second concept is based on the idea that the phase of doctoral education and training should be reformed in order to prepare students for professional careers as researchers, while the third concept is based on the idea that the doctoral degree is the door opener for a professional career or for a promotion in one's professional job. A number of existing tensions were discussed: first of all, the tension between the intention to increase the numbers of doctoral degree holders and the trend to only recruit best talent, connect to the regulation of access and admission for specific programme of graduate school. In addition, there is the tension about the funding related to status of doctoral students: are they "students" (which should pay a fee for the teaching and training services and the use of infrastructure which they require?) or are they "young researchers" (who contribute with their work to the teaching and research performance of their institutions and should receive a salary?); and the discussion about "critical mass. Where critical mass is achieved, doctoral students have more opportunities to discuss their work with experts, increase the excellence and consequentially the funding.

As a conclusion, Barabara Khem argued several issues for the general discussion about possible further developments, strategic objectives and possible targets, related to qualification pathways, time budget, evaluation, job satisfaction, working conditions and management.

After a general discussion, **Egbert de Weert**, *CHEPS/ University of Twente, Enschede, The Netherlands*, introduced the second morning session "*Mobility in ERA: Barriers and fences from the national scientific systems*". After discussing the main problems related to the researchers mobility in Europe, Catherine Paradeise was introduced.

Catherine Paradeise, *Paris-Est Marne-la-Vallée, Marne-la-Vallée, France*, discussed her studies about higher education careers in the French public sector: permanence e change. This contribute highlighted the main component of the French higher education system. Currently, the French higher education system is characterized by a double divide between wealthy research organizations and Higher Education and between Universities and "Ecoles". Universities are structured as organizations and their autonomy is formally weak until 2007 (no ownership of resources, no global budget, no autonomy of management, very marginal strategic capability). Before 1984 teacher's job was defined by his/ her annual teaching load; university teachers were defined as "teachers researchers" and the annual teaching load increases (from about 100 h to 192 h per year). Currently, teaching load varies de facto according to position in the hierarchy, and we can see a large variability of research load across Universities, disciplines and individuals.

The research system is mainly characterized by public institutions with administrative and financial autonomy and 3 foundations with private status but quasi-public management (Institute Curie, Institute Pasteur and Centre du polymorphisme humain). In this contest, researchers are civil servants or, in the case of foundations, on long term private contracts (de facto quasi-public). Their functions is to develop full time research and to teach to all

levels, especially doctoral. The actual division of labor shows a large variability across disciplines in relation to variability in the division of labor and hierarchy within teams, instrumentation, etc. Beside the University, the "écoles"- as a mix of hierarchical and professional bureaucracies -have been widely increased. The most prestigious are public or quasi-public and they have a large strategic, administrative and curricula autonomy. By the time, these type of institutions have increased their mission in research. However, after the definition of Bologna standards, the direction of public research system is to obtain an integration between university and écoles. This integration could be achieved through the convergence of recruitment, salaries and quality.

After these wide consideration about scientific research system, Paradeise showed the situation of academic labour market: the strongly increase over the last 20 years and structural changes (improving sex ratio, cuts recruitments of civil servants, changes of age retirement). That drives toward the dualization of the labor market: in the primary one there is a double chance (up or out) while in the secondary one there is no chance to penetrate the core after a few years and a precarious positions becomes a *way of living*. The recruitment rules of doctoral and post-doctoral became more local after 2007 and it getting a more formal definition of workload and standards categories. The individual impact of changes in quality evaluation remains soft at this stage, but the pressure increases as well as the impact of individual commitment. Regarding to the salaries, the position of a university professor in France At the beginning of the 20th century, was at the bottom of the top 1% salaries; In 2005, is in the middle of the 5% top salaries (half of the former standardized salary, and that deterioration started 30 years ago. In conclusion the scientific career and curriculum has change dramatically whit loss of status (from elite to middle class job) and with no rising of salary and related benefits.

At the end of this second day, participants were invited to a round table concerning specific workshop themes. **Roberto Moscati, University of Milan-Bicocca, Milan, Italy** was a chair of this discussion, in which all participants have been invited to present one or more statements and discuss them . In the workshop round table, named "*Promoting a new organization of Higher Education and Scientific job in ERA: what is needed?*" the discussion highlighted possible solution against fences and problems linked to creation of an European research area, characterized by a creation of common line of actions, but at the same time taking into particular account the different national context. In particular the scholars participating to the workshop assumed some final suggestions for further research:

- How significant is the segmentation of research labour markets?
- Is this a temporary situation or are young researchers facing extending periods of precarious labour conditions?
- How significant are the long-term returns to doctoral education?
- What is the variability of those returns, namely regarding issues such as nationality, fields of study, gender and prestige of the institution awarding the degree?
- How significant are the inequalities in research salaries? What are the effects regarding research productivity, collaboration and cooperation among researchers, and satisfaction among research workforce? Human resources management

Moreover, **Aurelija Novelskaite, Lithuanian Social Research Center and Vilnius University, Faculty for Humanities** discussed the issue related to problem of "wasting of talents" in Western and former communist countries and the inefficient usage of existent human potential. Novelskaite presented at the workshop data from a recent research of the Vilnius University, that demonstrate how especially girls tent to avoid science and technology

fieldes. Young women tend to retreat from the fields in more numbers than young men. The Novelskaite paper will be part of the foreseen publication.

Although the volcanic ash cloud haven't allowed the participation of whole list of invited researchers, **Peter Maassen**, *University of Oslo* sent his contribution about "*Mobility in ERA: Barriers and fences from the national scientific systems*" in which he highlighted the characteristics of European Research Area (ERA), the European Level policy making and National perspectives. At the end, Maassen raise up important research questions to the future reflection:

- What are the structural factors that make certain countries an attractive destination for researchers in Europe and other countries an unattractive one?
- What are the long term consequences for social equality and the distribution of welfare in Europe of a continuous unequal mobility pattern of researchers?
- How can we prevent that in 10 to 20 years from now more than 90% of all top researchers in Europe are working in less than 10 Countries.

3. Assessment of the results, contribution to the future direction of the field

At the end of the workshop, ESF representative showed a couple of ESF instruments that might be useful for participants to follow up in research on Higher Education and researchers' careers. The participants discussed in the round table on which kind of instrument could be more suitable to support the network established during the ESF Workshop in Rome. The simplest one, although not easy to succeed in, is a Collaborative Research Proposal for the ECRP scheme in the social sciences. The scheme could offer new opportunities to share knowledge and experiences between the participant giving the occasion to strengthen research capacity in line with the objectives of the European Research Area.

Another instrument assessed was the Science Policy Briefing with higher impact on policy making and public opinion, which would give the opportunity not only to make policy recommendations but also to indicate directions for research. The participants are in evaluation and selection stage of the funding opportunities to valorise the network established in Rome during the workshop. All the scholars are willing to take the opportunity to strength the good research relationship established new research project and policy recommendations on perspectives and tendencies for researchers' career, expectations and job satisfaction.

The convenor is actually working to produce a publication composed by the papers and contribution from the workshop participants, that is foreseen to be published in the late 2010. At the moment, the convenor is in close collaboration whit all the scholars involved in the workshop to revise the papers presented in Rome and to finalize the publication.

4. Final programme

Sunday 25 April 201

Evening Arrival – Free dinner

Monday 26 April 2010

9.30- 10.00	Arrival, registration, welcome coffee
10.00-10.15	Welcome by Convenor Sveva Avveduto (IRPPS-CNR, Rome, Italy)
10.15-10.30	Presentation of the European Science Foundation (ESF) ESF Standing Committee for Social Sciences (SCSS)
10.30 -10.45	<i>Coffee / Tea Break</i>
10.45-12.30	Morning Session: Strengths and Weaknesses of Higher Education and Scientific job in ERA process Chair: Sveva Avveduto (IRPPS-CNR, Rome, Italy)
10.45 – 11.30	Presentation 2 “ERA and the Bologna process: implementation problems and the human resource factor” Alberto Amaral (Centre for Research in Higher Education Policies, Matosinhos, Portugal)
11.30-12.30	Discussion
12.30-14.00	<i>Lunch</i>
14.00-14.45	Presentation 1 “Helpful for the advancement of knowledge? Roots, limits and problems of prevailing research assessment methods” Stefano Boffo (University of Naples "Federico II", Naples, Italy/IRPPS-CNR, Rome, Italy)
14.45-15.30	Discussion
15.30-17.30	Afternoon Session: Dynamics of scientific careers in Europe: which role of motivation expectation and job satisfaction Chair: Pedro Nuno Teixeira (Centre for Research in Higher Education Policies, Matosinhos, Portugal)
15.30-16.15	Presentation 1 “The rise of scientific vocation” Javier Vidal (University of Leon, Leon, Spain)
16.15 - 17.30	Discussion
17.30 - 20.00	Free time
20.00	Dinner

Tuesday 27 April 2010

10.00-11.15	First Morning Session: The challenges of European higher education Chair: Leonardo Cannavò (Sapienza University of Rome, Rome, Italy)
10.00-10.45	Presentation 1 “The European Higher Education and Research Area: tensions, links, and effects on scientific careers”

Barbara Kehm (International Centre for Higher Education Research
 Kassel, Kassel, Germany)

- 10.45-11.15** **Discussion**
 11.15-11.30 *Coffee / Tea Break*
- 11.30 – 14.00** **Second Morning Session: Mobility in ERA: Barriers and fences from the
 national scientific systems**
Chair: Egbert de Weert (CHEPS/ University of Twente, Enschede, The
 Netherlands)
- 11.30 –12.15 **Presentation 1 “Research and higher education careers in the
 French public sector and its international environment. Permanence
 and changes in organizations and institutional rules. What
 consequences on mobility patterns?”**
Catherine Paradeise (Université Paris-Est Marne-la-Vallée, Marne-la-
 Vallée, France)
- 12.15-14.00 **Round Table: Promoting a new organization of Higher Education
 and Scientific job in ERA: what is needed?***
 Chair: **Roberto Moscati** (University of Milan-Bicocca, Milan, Italy)
- *All participants are invited to present one or more statements and discuss them*
- 14.00** **End of Workshop, lunch and departure**

5. Statistical information on 12 workshop participants*

Table 1 – Participation by Gender

<i>Gender</i>	<i>Number</i>
Female	5
Male	7
Total	12

Table 2 –Participation by Countries

<i>Nation</i>	<i>Number</i>
France	1
Germany	1
Italy	5
Lithuania	1
Nederland	1
Portugal	2
Spain	1
Total	12

Table 3 – Participation by Age structure

<i>Age</i>	<i>Number</i>
30-40	3
40-50	2
50-60	5
60 and older	2
Total	12

** Due to volcanic ash cloud, prof. Jean Pierre Dubois, Osmo Kivinen, Peter Maassen, Kate Purcell, Jussi Välimaa were not able to attend at the workshop*

6. The Final list of participants (full name and affiliation)

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