



Researcher Careers

End-year Meeting, Mines ParisTech/CEMEF, 28 Sep – 1 Oct 2010

This presentation was used as a basis for discussions on Researcher Careers. The material in the following slides was put together from responses to a survey sent out to senior researchers from academia and industry; questions from PhD students and Postdocs; and European Union and other publications cited at the bottom of relevant slides.

It should be pointed out that the survey responses and questions quoted in this presentation are personal points of view from a limited set of individuals and may not be representative of academia or industry as a whole.

We thank everyone who answered the surveys, contributed with questions and participated in the discussions.

Inputs



Discussions

European Union Publications

Survey Responses from Senior Researchers

Questions from PhD students and Postdocs

Recruitment

Identification of Candidates



- Through 'careers' page of institution website
- Advertisements
 - Technical periodicals, newspapers
 - Online job-sites
- At conferences or meetings
- Through personal contacts
- Unsolicited emails

"Is age a factor?"

Uniform responses from senior staff

Important

- Educational background
 - Prizes and awards
- Prior work Experience
 - Additional courses, trainings certificates
 - Scientific achievements
- Specific Skills
- Give complete account of time, *i.e.* explain time gaps (if any)
- Language Skills
- Skills with specialized software

Unimportant / Superfluous

- Too long and detailed description of trainings
- Long list of extra-curricular interests, hobbies etc.
- General “stuff”
 - I am a highly ambitious researcher... etc.
- Skills with common software (*e.g.* word or data processing)

Individual comments...

“...qualifications for the job isn’t just about academic success.
...a job requires skills (technique understanding, qualifications),
competencies (soft skills like team involvement...) and experience (did
you go to a different good college for next degree... have you worked in
different fields...). Seeing this as an equal thirds model provides
balance.”

“I like indications of achievements outside science *e.g.* ran a marathon,
led a rock group etc.... makes me want to meet the applicant.”

“...[details of] activities highlighting leadership and people
skills.”

...more comments

“...mention social engagement or group work etc. showing soft skills.”

“I want to see that this person has the talent to work in a constructive and self-responsible way...”

“...either find a job exactly fitting to your skills or you must be able to show that you are willing and able to learn fast and adapt to new challenges.”

“Everything that shows a high level of curiosity, engagement, passion for the job envisaged, result orientation, working attitude, communication and leadership skills.”

Challenges

- Suitable job opportunities for partners
- Suitable infrastructures for their children's education
- Separation of families/couples
- Legal, administrative, cultural issues
- Reintegration into home country after stay abroad is a major problem
- Academic positions still largely reserved for national or even internal staff
- Mobility across borders or between academia and industry tends to be penalized rather than rewarded

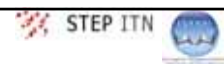
Is mobility an asset or liability?

“What prospects for non-EU nationals to find employment in European institutions?”

M. Nekovee, “Obstacles to Mobility in Europe: Young Mobile Researchers Meet EC Policy-Makers in Crete”, Science Careers, 03 Nov 2000

EUR 22840 – The European Research Area: New Perspectives – Green Paper: 04.04.2007

Quo vadis?...

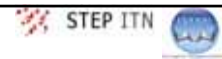


...industry or academia?

Commonalities:

problem-solving, independence and originality of thinking,
skills to generate new solutions, organizational skills, team-
work...

Industry vs. Academia



Industry

“First priority has to be relevance to business development.”

“More focused research with an eye on the bottom line...”

“...need to understand the economical and technical context...”

More often necessary to ‘drown one’s puppy’ when project takes longer, costs more, or doesn’t promise to be commercial success.”

“Publication rate may not be high...”

Academia

“Fundamental research (on a restricted field) prevails.”

“More detail-oriented working...”

“Longer-term goals”

“Permanent positions are hard to come by.”

“When is the best time to decide if one is focusing on an academic career or a career in industry?”

Is it important to have industry experience before joining academia?

Hard vs. Soft Skills



Hard Skills: technical skills, *e.g.* knowledge of specific instrumentation, techniques or procedures

Soft skills: people-oriented skills, *e.g.* communication, team-working

Other skills: critical thinking, management, problem-solving etc.



Complementary Skills



Survey Responses



If a strong background in relevant field is considered a given, then...

“Hard skills... not important. Problem solving capacity in a well organized way based on a good education and personal involvement are asked.”

“... ambition > strong work ethic > creativity (i.e. ability to think outside the box) > interpersonal skills.”

“Hard skills are needed only on specialist or senior specialist levels. On management level soft skills are needed.”

Survey Responses...



“Team work within the group, interdisciplinary cooperation within one industry, between industries, or industry-university is a must today.
...soft skills are sometimes (if not the top researcher for this special research problem) more weighted than the hard skills.”

“Companies and academics will [sometimes] shy away from employing the ‘brilliant’ candidate if there is concern that the rest of the organization will be disrupted.

The ability to get on with others, through the art of negotiation is critical...
...a balance between ‘Task’ and ‘Maintenance’.”

Academic Training vs. Job Profiles



To what degree is your academic training related to your current job profile?

“Less than 10%”

“[The academic training] gives the foundation from which to build further.”

“Very related. Not necessarily in the same field as my PhD dissertation but in the broader field of Polymer Science.”

“I have changed and broaden[ed] my area of research significantly, however all core skills are the same.”

Academic Training vs. Job Profiles



“The chance to find a job where the specialized knowledge gained during PhD is exactly the need there, is low... Project management, group leading, knowledge of IP, coordination of groups etc. have to be learned on the job or in parallel.”

“Scientists have to do management jobs (administrative project management), more business skills needed.”

Entrepreneurship



Entrepreneurship among researchers is desired. But very limited training available for researchers in technical and scientific fields.

Any support available for researchers wishing to start their own enterprise?

EUR 22958 – Report of Activities (2001-2007) – European Research Advisory Board (2008)

“Entrepreneurship in Higher Education, Especially in Non-Business Studies”, Final Report of the Expert Group, March 2008

Gender Issues

Gender Statistics – EU 27



In scientific research, women account for 30% of all researchers

- 37% in Higher Education Sector
- 39% in Government Sector
- 19% in Business Enterprise Sector

In academic careers, the proportion of women tails off vertically

- 59% - Graduates
- 45% - PhDs
- 44% - Grade C academic staff
- 36% - Grade B academic staff
- 18% - Grade A academic staff

Apparent negative correlation between level of R&D expenditure per researcher and proportion of women researchers, *e.g.* Business and Enterprise Sector

EUR 23856 – She Figures 2009 – Statistics and Indicators of Gender Equality in Science (2009)

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Survey Responses



No strict gender-related barriers... but work-life balance is a major challenge

“Work-life balance is a little more of a challenge to females.”

“There are just too few women willing to sacrifice a lot of their private lives to pursue a career to higher ranks. I guess they are smarter and more mature than men.”

“If we accept that neither men or women can have it all with regard to family vs career and if women or men want to interrupt careers for child raising and as a result not climb as high as they otherwise would then I do not see the problem.”

Work-Life Balance (WLB) Policies



Top preferences among 32 options:

- Flexible work schedule
- Appropriate work load
- Predictable working hours
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- Option to switch between full- and part-time (appears to be more important for women)



Varies with:

Geography
Function
Age
Parenthood
Industry
Level
Gender (least differences)

EUR 23740 – Women in science and technology – Creating sustainable careers (2009)

Thank you!