Nasjonalt seminar Forskerutdanningsadministrasjon som bidrar til ph.d.-utdanning av høy kvalitet

Improving Doctoral candidates' employability and career evolution
the role of a specialised training and career department

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Outline

• UPMC and the French context of doctoral education
• The (French) Doctorate holders' employability issue
• Our action's drivers
• The Training and Career Department (values and missions)
• Assessment and outlook
Institut de formation doctorale

Key figures

• 162 Research laboratories
• 5000 Researchers and teaching staff
• 400 Million euros allocated to scientific research projects
• 6000 Publications per year
• 3500 Doctoral candidates
• 700 Theses defended every year

• ~ 10% of the French Doctorate holders in hard sciences

⇒ A huge responsibility!
The French Doctoral School

- A gathering of research teams, critical mass
- Thematically or geographically focused
- Managed by a director and a board
- Accredited by the HER ministry for 4 years
- Assessed by a national agency (AERES)
- Missions defined by national law

- Renewed recently to improve employability and professional follow up of Doctorate holders!
The Institute of Doctoral Training

- A specific department with resources, staff and premises

- Coordinating the 19 doctoral schools activities
  - A director, a board, four colleges with elected representatives
  + companies representatives (doctorate holders, some UPMC alumni)

- Implementing a common and strong doctoral education policy

- Encouraging good practices diffusion and development

- Producing different types of indicators

- With a dedicated service: Training and Career Department
  - doctoral students
  - doctorate holders
  - supervisors
The French context of doctoral education

- A dual system of higher education: Universities + Engineers Schools
- In 2006: 210 000 researchers, 46% in the public sector, 54% in the private sector
- 10 700 theses defended per year, 60% in hard sciences
- Private research highly concentrated: 2% of the companies gather 61% of the researchers
- Mostly in electronics, aeronautics, car industry and informatics
- Less than 5% of the private sector’s researchers work in medical / biological sciences or chemistry; 1-2% for humanities and social sciences

Only 13% of the researchers in the French private sector are doctorate holders
PhD employability, a multi sided issue

• Economic and social situation
• Nature of the labour market itself
• Knowledge of and access to labour market
• Mutual representations (academia vs private world)
• Recruitment habits and culture
• New skills/competences requirements identified (or not)
• Lack of clear sustainable projects

+ 
• The rather negative perception by academic staff of other careers than research and teaching
Training towards employability

Employable

Capable of
Holding
A job
+ Available
For hire

Capable of
Holding
A job
+ Available
For hire

⇒ A capacity, a potential
⇒ An activity
⇒ An occupation, a position
⇒ An attitude, a state of mind
⇒ A demand, a need

Train

Teach and supervise

Educate
Develop
Exercise

⇒ for a future role or function
⇒ competences and behavior by instruction and practice
⇒ in order to prepare for an event or a competition
Training towards employability =

• Educate early stage researchers for their future job or function by:

• Teaching and supervising but also

• Building / providing the conditions of their own potential development

• Assuring / accepting availability for hire

• Improving / fostering / developing employers’ desire to hire doctorate holders (directly or indirectly, personally or collectively)
The future jobs (1)

- globalisation and internalisation: evolution of economic and labour market
- new technical, economical and social challenges
- trades évolution; companies organisational evolution
- new relationship employers-employee
- new expectations towards education and new skills needs

⇒Highly qualified, research trained professional
- What kind of role, responsibilities?
- What kind of competences and careers?
<table>
<thead>
<tr>
<th>Logical and rather well known</th>
<th>Positions linked to teaching and research</th>
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<tbody>
<tr>
<td>Rather logical but not well, or not enough known</td>
<td>Positions linked to the development of the knowledge economy and society</td>
</tr>
<tr>
<td>Not logical and not well known</td>
<td>Positions customized by individuals to fit their specific motivations and competences</td>
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To get and hold these "new positions“ awareness, curiosity, anticipation ESSENTIAL!
Conditions of ESR professional development and evolution

• Agreement from the scientific researchers community about the new stakes of doctoral education and the mutual benefit to widen doctorate holders employment

• Knowledge about specific skills and competences which - can be developed through doctoral education - are required for the « new jobs »

• Awareness of conditions required to develop these skills

• Sincere willing to improve the development of professional environment and conditions

• Recognition of the « transferable skills training programmes » as integral part of doctoral education

• Systematic follow up of doctorate holders employment, communication of the results and promotion of all types of positions (not only HE and R&D)
The companies/organisations need people able to solve their problems.

The recruiter mission lays on a bet:
- find people *potentially* able to solve individually or collectively these problems
- because they have already solved such types of problems or equivalent in other situations

The candidate’s challenge is
- to have developed these competences elsewhere
- to be able to prove it
- to express them clearly and concretely to be convincing
- to reassure recruiters about their choice
What drives our action at UPMC?

Conviction

• Doctoral education well managed and supervised allows the development of a wide range of skills and competences

• Diffusion of doctorate holders in all branches of socio-economic sector will bring mutual benefit to society and to the researchers’ community

Ambition

• Doctorate holders are able to hold highly skilled positions and bring creative contributions to organisations’ development

Faith

• Besides skills and competences, they have true values and motivations to contribute to a positive world evolution
What are we doing concretely?

- Organisational innovation: creation of a dedicated department for the 20 doctoral schools
  - A director, a board, four colleges with elected representatives
  - + companies representatives (all doctorate holders)

- Mutualised resources (budget, staff, premises)

- A common and strong politic implemented by this department

- Different types of indicators

- Creation of a dedicated service: Training and Career Department
  - doctoral students,
  - doctorate holders,
  - supervisors
The Training and Careers Department
A dedicated team + external trainers

Training: seminars + workshops
- Management
- Communication
- IP/research commercialisation
- Entrepreneurship
- Vocational project & skills analysis
- Job seeking tools

Documentation center
- Companies documents
- Trade press
- Surveys, reports
- Specialized books

Events
- Businesses days
- Conferences, round tables
- Businesses visits

Individual Career counseling + Networking
Don't procrastinate, anticipate!

Step 1: Vocational project awareness

Development of related skills, knowledge and networks

Step n: Vocational project in practice
The main steps of building an ambitious and realistic vocational project

- **Knowing the job market**
  - Information sources; trades, businesses and jobs discovery
  - Understanding of recruitment stakes and procedures
  - Job opening deciphering
  - Professional network development

- **Be clear with one’s motivations and project**
  - Values, likes and motivations identification
  - Accordingly: trade, entreprise and job definition and choice
  - Career evolution potential

- **Skills analysis and development**
  - Personal and professional experiences and related skills
  - Target job’s expected skills
  - Skills / development plan

- **Network development**
  - For information about job market and jobs content in the preparation phase
  - For cooptation in the active searching phase
Shared responsibility between: DS, Labs, TCD
- Training in research technics and methods, research actuality and updating ⇒ Doctoral schools + laboratories
- Transferable skills training and short «missions» ⇒ Training and Careers Department (TCD)

The training offer
- Management of scientific information
- Languages: English mostly (certification), partnership for others if needed
- Organisations: mostly businesses today but soon HE and research
- Innovation and entrepreneurship
- Communication
- Management
- Vocational project and career development
+ SOON: linked with the new doctoral contract: consultancy, scientific communication and mediation, private-public partnerships and funding.
The individual training plan

- Balance between scientific and transversal training
- Follows vocational project evolutions
- Discussed and planned with the supervisor
- Submitted to the Doctoral School
- Once validated, submitted to Training and Careers Department for registration
- Follow up of effective participation
- Data acquisition
- Certificates editing
• **Seminar**
  - Large groups
  - Develop interest for the topic
  - Evaluate motivation for improvement
  - A prerequisite for workshops

• **Workshops**
  - Small groups
  - Deepen knowledge
  - Develop skills
  - Mandatory for Individual counselling

Registration database: follow-up + indicators
Training for supervisors
A shared responsibility too

- Doctoral schools in charge of
  - Communicating changes about regulation in doctoral education
  - Changes in the UPMC doctoral education policy
  - Recommendations about supervisors training needs

- Institutions (university or partnered research institutes) in charge of
  - Training offer for the staff, technical or transferable thematics

- Training and career department in charge of
  - Specific training about doctoral supervision (3 steps)
    - The new stakes of doctoral education today and the new job market of doctorate holders
    - The new vision of the supervisor charge: management of the doctoral project improving employability
    - Experience sharing (8 months later)
Some examples of success stories

- Lucasl, developmental biologist
  Finance
  Funding consultant

- Louis, physicist
  IP cabinet
  Patent attorney

- Frederic, environmental chemist
  Territorial community
  Departement manager

- Tania, analytical chemist
  Environment
  Project manager

- Yacine, applied mathematics
  Bank
  Analyst

- Catherine, physiologist
  Biotechnology
  Project manager

- Michael, biophysicist
  IT, knowledge management
  Consultant

- Melina, cellular biologist
  Public health association
  Communication

- Gwenaelle, physiologist
  Research Institution
  European Project manager