The ISEKI_Food strategy to promote the employability & entrepreneurship of the PhD students in Food Science and Technology

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WP5: Third cycle degree in the training of FS&T professional and scientists

1. PhD: changing role in the education and training of the future generation of the Food scientists and Technologists (3° level of HE)
   - Highly qualified and prepared food scientists and technology professionals

2. Existing need to change the training and education approach of the PhD students
   - Research-oriented PhD vs industry-oriented PhD
**IFOOD 4 - Main objectives**

To develop a framework of stakeholders in the food area:

- to lead **innovation in Food studies** education and training to fit the skills requirements of industries

- to promote **innovation** in the Food Science and Technology academic sector

- to favour the **internationalisation** of the European Food studies:
**Main “expected” outcomes**

- **Toolbox s to implement and modernise Food Studies programmes and promote their internationalisation**
- **Qualification Frame for Higher Education Teaching Staff and the Pilot test Summer School for teachers**
- **Virtual Platform for doctoral candidates** to favour their networking and training with material useful to acquire knowledge and technology transfer skills
- **Innovative teaching materials** (books; e-learning training courses; a pilot Virtual lab)
- **Exploitation:** ISEKI e-journal, 3rd ISEKI_Food conference, webinars

**Strategic document** on the ethical and social role of the Food studies and food professional

**DIFFERENT TARGET END-USERS**
Food professional career path

- Choice of area of studies
- Higher Education
  - BsC → MsC → PhD
- Career Development
  - Planning
  - Training
  - Work experience
- Labour Market
  - Food scientist
  - Food technologist

- Industry
- Governmental
- Research
- Consultancy

Family Life and Basic Studies
1. IDENTIFICATION SKILLS FOR IMPLEMENT ITS LABOUR MARKET POTENTIAL

    Survey (different forms) to academia and industry/professional representatives

2. DEVELOP/SET NEW TRAINING TOOLS

3. DEVELOPMENT OF A VIRTUAL PLATFORM TO:
   - FAVOUR INTERATION AND NETWORKING OF PHD AT EU AND INTERNATIONAL LEVEL
   - DISCUSS ON SPECIFIC ASPECTS
The ISEKI_Food PhD newsletter

2° issue of the PhD newsletter: November 2013

CALL OPEN FOR SUBMISSION OF NEWS/INFO FROM PARTNERS

Happy New Year 2013!
The PhD virtual platform

https://www.iseki-food.net/phd/about_us

Work in progress....
http://www.isekiconferences.com/athens2014/

An International “open” forum for all the stakeholders of the whole food chain (students, researchers, education scientists, Technologists, representative of government agencies, Industry representatives and trainers, Food consumers and Wider community....)
The conference includes three main sessions:

> **Session 1: Re-thinking education: enhancing Food Science & Technology competences for Bioeconomy 2020.**

> **Session 2: Knowledge and Innovation in research towards a bioeconomy perspective.**

> **Session 3: Food Industry for a sustainable planet food supply.**

The conference includes 2 Workshops for PhD students (21 May 2014)
- “State of Research in the Field of Food Science and Technology: presentation of PhD student research activities“
- “Industry meets Academia and PhD programmes”

http://www.isekiconferences.com/athens2014/
Third cycle degree in the training of FS&T professional and scientists

IDENTIFICATION SKILLS FOR IMPLEMENT ITS LABOUR MARKET POTENTIAL

Survey (different forms) to academia and industry/professional representatives

RESULTS....
WP5: Third cycle degree in the training of FS&T professional and scientists

ACADEMIA: 87 replies from 36 countries

INDUSTRY: 107 replies, from 20 countries
In the last years, most of your PhD students have found a job in the following sectors:

- **Academia public** 60%
- **Research centers** 15%
- **Industry** 22%
- **Research sector** 3%

In the near future, probably most of your PhD students will find a job in the following sectors:

- **Academia public** 35%
- **Research centers** 22%
- **Industry** 37%
- **Research sector** 6%
Do you have employees with a PhD degree?
If not, why?

- **Yes**: 57%
- **No**: 43%

If not, why?

- **No R+D activities**: 11%
- **Limited size of the company**: 29%
- **No need**: 26%
- **High salary of PhD**: 20%
- **Other activities**: 14%
INDUSTRY

Does your organization conduct R+D activities?

R+D activities

- Yes: 90%
- No: 10%

How often?

- Continuously: 75%
- From time to time: 25%
Do you think PhD students will need new skills for facing the future labour market perspectives?

**ACADEMIA**

- Yes: 95%
- No: 5%

**INDUSTRY**

- Yes: 95%
- No: 5%
ACADEMIA versus INDUSTRY
GENERIC/personal COMPETENCES

Academia

36% Personal effectiveness
22% Communication skills
21% Networking and team working

57% Communication skills

44% Personal effectiveness
22% Communication skills
1st

Generic competences

1,1
33%
1,2
17%
1,3
21%
1,4
4%
2,1
4%
3,1
13%
3,4
8%

Industry

75% Personal effectiveness

2nd

Generic competences

1,1
4% 1,3
8%
1,4
4%
2,3
12% 2,4
4%
2,5
4%
3,2
13%
3,3
4% 4,2
4%

32% Networking and team working
32% Career management

3rd

Generic competences

4,1
12%
4,2
20%
3,4
16%
3,3
12%
3,2
8%
2,4
4%
2,5
4%

32% Communication skills

3rd

Generic competences

4,1
12%
4,2
20%
3,4
16%
3,3
12%
3,2
8%
2,4
4%
2,5
4%

43% Personal effectiveness

32% Career management
GENERIC COMPETENCES

INDUSTRY - ACADEMIA

- Writing reports/papers
- Defend own research
- Transferable skills
- Flexibility and open-mindedness
- Difficulties handling
- Communication
- Ability to give feed-backs
- Networking
- Reactivity to unforeseen situations
**SPECIFIC-TECH. COMPETENCES**

**Academia**

**94% Research skills and techniques**

**44% Research management**

**47% Research environment**

**21% Research management**
SPECIFIC / TECH. COMPETENCES

Industry

63% Research skills and techniques
29% Research management

60% Research skills and techniques

46% Research management
11% Research environment
SPECIFIC/TECHNICAL COMPETENCES

INDUSTRY - ACADEMIA

Understand research context
Ability to perform original research
Project management
Fund raising - industry contacts

independent and creative thinking
Res. Project develop.
To find solution to research problems
Integrate ideas
Critical thinking

Understanding res. methodologies
Knowledge health and safety issues
Ability to work across disciplines
Awareness of issues related to research rights
Do you consider attainment of a PhD degree increases your job opportunities /better paid job/salary?

**ACADEMIA**

- PhD degree increases your job opportunities
- Academia public: 77%
- Research centers: 16%
- Industry: 4%
- Research sector: 3%
- SME: 0%

**INDUSTRY**

- PhD degree increases your job opportunities
- Academia public: 58%
- Research centers: 24%
- Industry: 8%
- Research sector: 10%
- SME: 0%

**PhD degree means finding a better paid job/salary**

- Yes: 57%
- No: 43%
ACADEMIA/INDUSTRY: Post-docs in your country are well trained for ...

**ACADEMIA: 92%**

- Yes: 96%
- No: 4%

**ACADEMIA: 90%**

- Yes: 98%
- No: 2%

**ACADEMIA: 58%**

- Yes: 32%
- No: 68%

**ACADEMIA: 21%**

- Yes: 28%
- No: 72%
What about the opinion of the PhD students?

RESULTS of the survey carried out last year ....
PANEL: 108 respondents
17 different Italian PhD courses

Distribution of the respondents by gender

Distribution of the respondents by PhD year
Question 4 (Q4): Planned future working position

Planned working sector of the respondents (Q4)
Question 5: In the future you are planning to find a job in the following sectors. Please rank them in order of importance, from 1st to 5th.

![Bar chart showing number of responses for type of planned work sector after achievement of the PhD degree ranked from the 1st to the 3rd choice (Q5, n. respondents: 108). In the “other” answer, the following jobs were cited: consultant, pharmaceutical, entrepreneur, Non-Government Organisation (FAO), teacher (school).]
Question 6 (Q6): Do you think PhD students will need new skills for facing the future labour market perspectives?
**Ranking new skills: Personal effectiveness**

Distribution of the responses (as %) by score: generic skills-personal effectiveness

- **Skill 1.1 Flexibility and open-mindedness**
- **Skill 1.2 Ability to handle difficulties in research or other professional activities**
Ranking new skills: communication skills

2.1 To write (report) fluently and efficiently scientific publications

2.2 To defend own papers in scientific conferences

2.3 To show ability to communicate effectively to a broad framework of audiences (interdisciplinary teams, expert conferences, science for society, workshops)

Distribution of the responses (as %) by score: generic skills-communication
**Ranking new skills: networking anf Team working**

**Distribution of the responses (as %) by score: generic skills-networking and team working**

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>To develop and maintain co-operative networks and working relationships with supervisors, colleagues and peers within the institution and the wider research community</td>
<td>1.50</td>
</tr>
<tr>
<td>To understand one's behavior and impact on others when working in and contributing to the success of formal and informal teams</td>
<td>2.01</td>
</tr>
<tr>
<td>To listen, give and receive feedback and respond perceptively to others</td>
<td>1.79</td>
</tr>
<tr>
<td>To develop capacity to engage in multidisciplinary works</td>
<td>1.60</td>
</tr>
</tbody>
</table>
Question 9 (Q9): Do you think post-docs (after obtaining a PhD degree) in your country are well trained for which labour market (answer type: yes/no):
- Academia
- Business
- Food sector (industry)
- Research

Skills and competences of the current PhD graduates according to the food sector (n. respondents: 108)
Question 8 (Q8): Do you consider a PhD degree means finding a better paid job/salary?

Economic added value of the PhD degree
Thank you for your kind attention

http://www.isekiconferences.com/athens2014/

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