



bioEconomía

Innovación al servicio del crecimiento sostenible
en la región EUROACE

Inovação ao serviço do crescimento sustentável
na região EUROACE

Bioprofesionales y
bioemprendedores en
España y Portugal

O Papel do projecto TRACK_FAST para os “novos” profissionais na área alimentar

Cristina L.M. Silva

Escola Superior de Biotecnologia
Universidade Católica Portuguesa

Training Requirements And Careers for Knowledge-based Food Science and Technology in Europe

TRACK_FAST
FP7 KBBE 227220

Program

Food, **A**griculture and **F**isheries, and **B**iototechnology

K n o w l e d g e - B a s e d B i o - E c o n o m y (K B B E)

Call FP7-2008-KBBE-2B

Area 2.2.3
Food Processing

KBBE-2008-2-3-03
Training and career development
for future food scientists

Objectives

Identification of the training and career requirements of future European food scientists and technologists (FST)

Implementation of a European strategy to recruit the next generation FST leaders

Context



Annual Report 2011

European Food Sector:

- Employs 4,1 million people in 274,000 companies
- *Leading employer in the EU manufacturing sector (14.6%)*
- Fragmented industry, being 99,1% SME's - *48.7% of food and drink turnover; 63.0% of food and drink employment*
- Purchases and processes 70% of EU agricultural production
- Annual turnover of €956,2 billion - *Largest manufacturing sector in the EU (16.0%)*
- Exports €65,3 billion to third countries - *EU market share in global exports 17.8%*

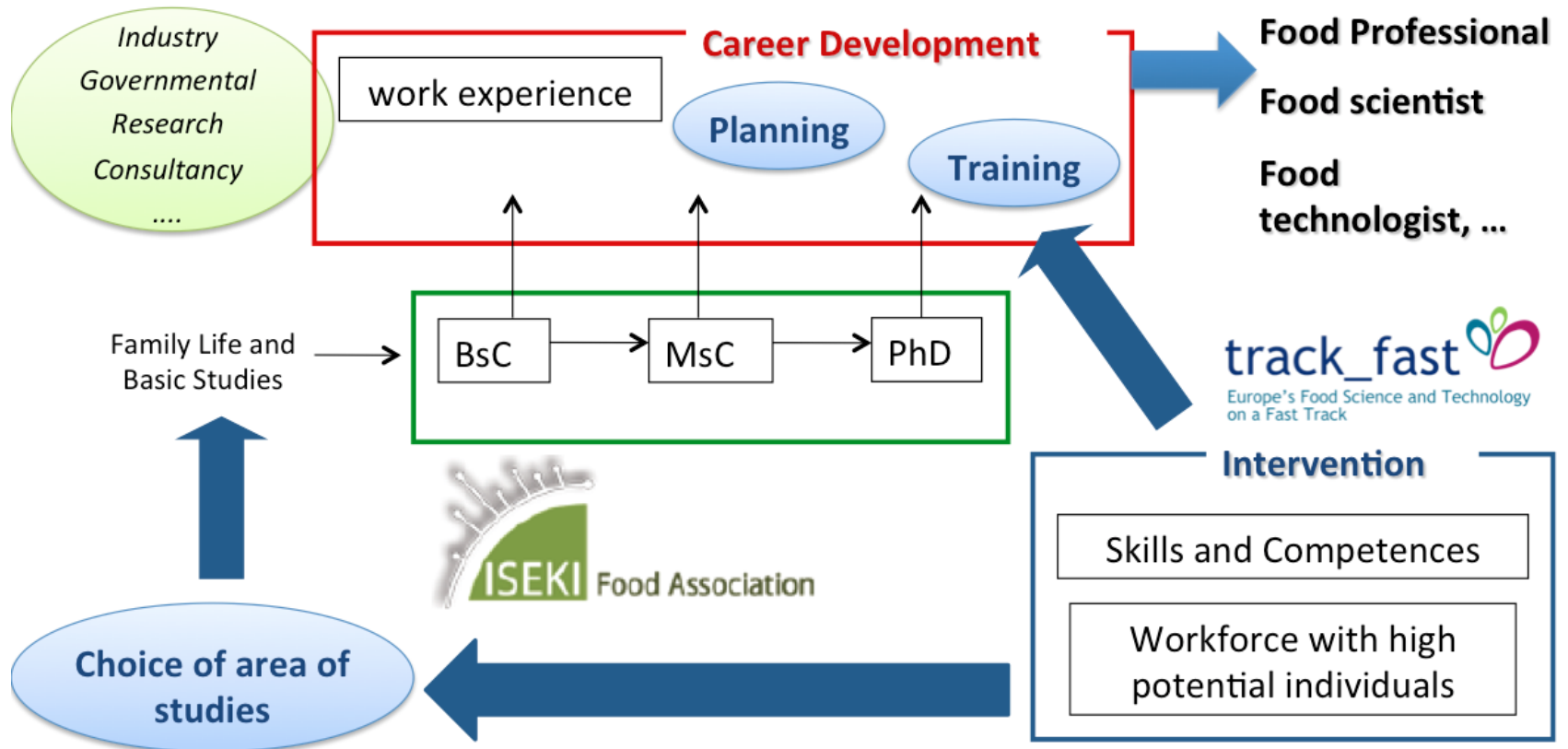
Context



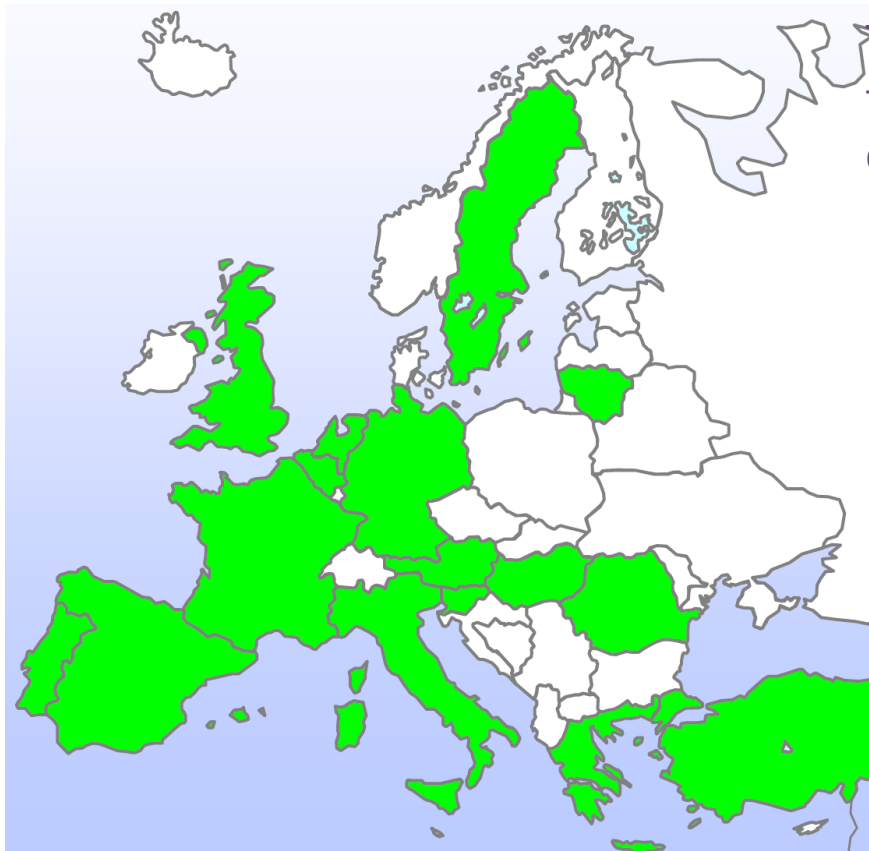
HOWEVER:

“Students tend to believe that a career in F&D is not an attractive choice, and the best and brightest science students choose other career paths.”

Context



Consortium



TRACK_FAST provides main stakeholders with a forum within which their main needs are considered

- ❖ representatives of European and national professional organisations,
- ❖ research centres,
- ❖ academic bodies,
- ❖ multinational companies,
- ❖ SME associations,
- ❖ associations specialized in training members for the food industry,
- ❖ quality assurance experts.

Consortium



Logical Framework

Update education/training based on actual and future food job market needs

Establishment of a framework for continual professional training and career development for the FST professionals

Regulation of FST professions in Europe

Promotion of FST to attract students

track_fast 

Europe's Food Science and Technology
on a Fast Track



>>>

Outcomes

>>> Identification and definition of personal skills
requirements in food job market

OBJECTIVES

- 1) *Which competencies should a FST have to be competitive in the job market and to provide the skills needed by employers?*
- 2) *What profile would be most desirable - that is what skills, knowledge and competencies are found in the “ideal FST”*
- 3) *How and when should these competencies be acquired?*



Highlights

- Employers of food scientists & technologists (FSTs) told us which skills they desire
- “Communicating” was the no. 1 skill desired by all FST employers
- Training in communication skills should primarily take place in school, before and during university, but the suggested frequency of such training was close to “continuous”, indicating that education during work life is also important for this skill.

Highlights

- “Thinking & Solving Problems ” was the no. 2 skill desired by all FST employers
- Problem solving skills should be learned outside of the workplace, essentially before working life begins, while communication skills may have some workplace-specific components which are taught by the employer
- Overall, “soft” skills are more in demand than food sector specific skills

Highlights

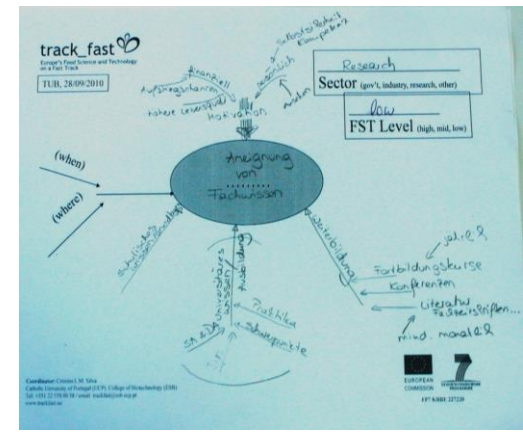
- “Product Development” was the no. 1 food sector specific skill
- This skill should primarily be learned in the workplace, but preceded by university training
- Desired skills varied by geographical region, FST level and employment area
- All employers in all areas mentioned soft skills much more than food sector skills. This may reflect a general satisfaction with the food sector-specific skills found in current FSTs

Highlights

- The comparison with the current situation showed that in general FSTs have the skills that are considered ideal. This is good news!
- However, current FSTs have almost the same competence in soft and food specific skills while, ideally, FSTs should have many more soft skills. The message seems to be that we need more soft skills and more varied soft skills

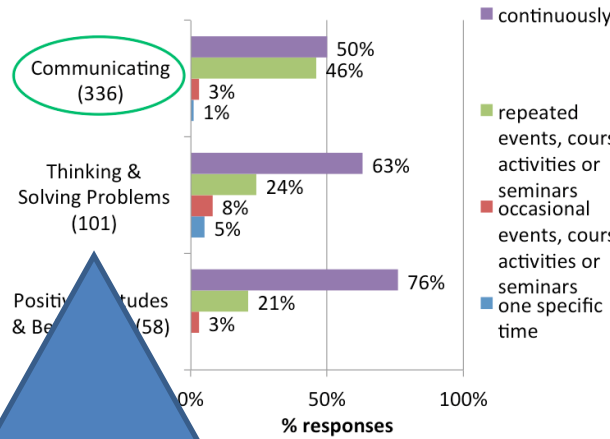
Source: D1.3: **FST Market Needs Report**

→ Which competences ?



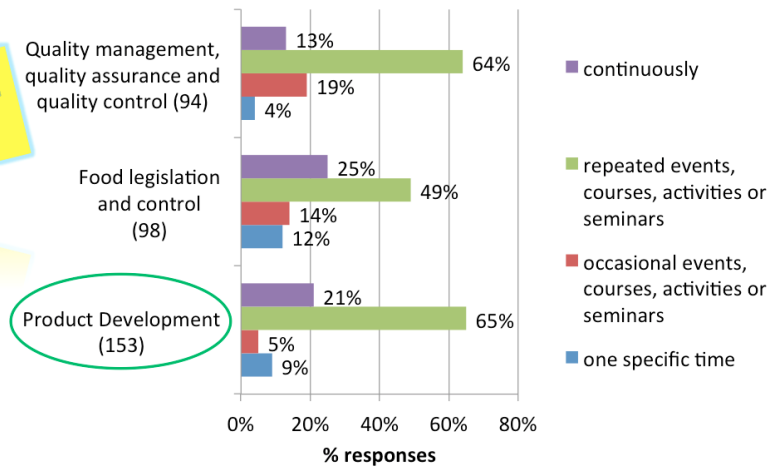
→ Where, when, how, how often?

TOP 3 Soft Skills



there is a need to promote the acquisition of soft skills

TOP 3 Food Skills



>>> Developments for the regulation of food science
and technology professions in Europe



UNIVERSITÀ
DEGLI STUDI
DI MILANO

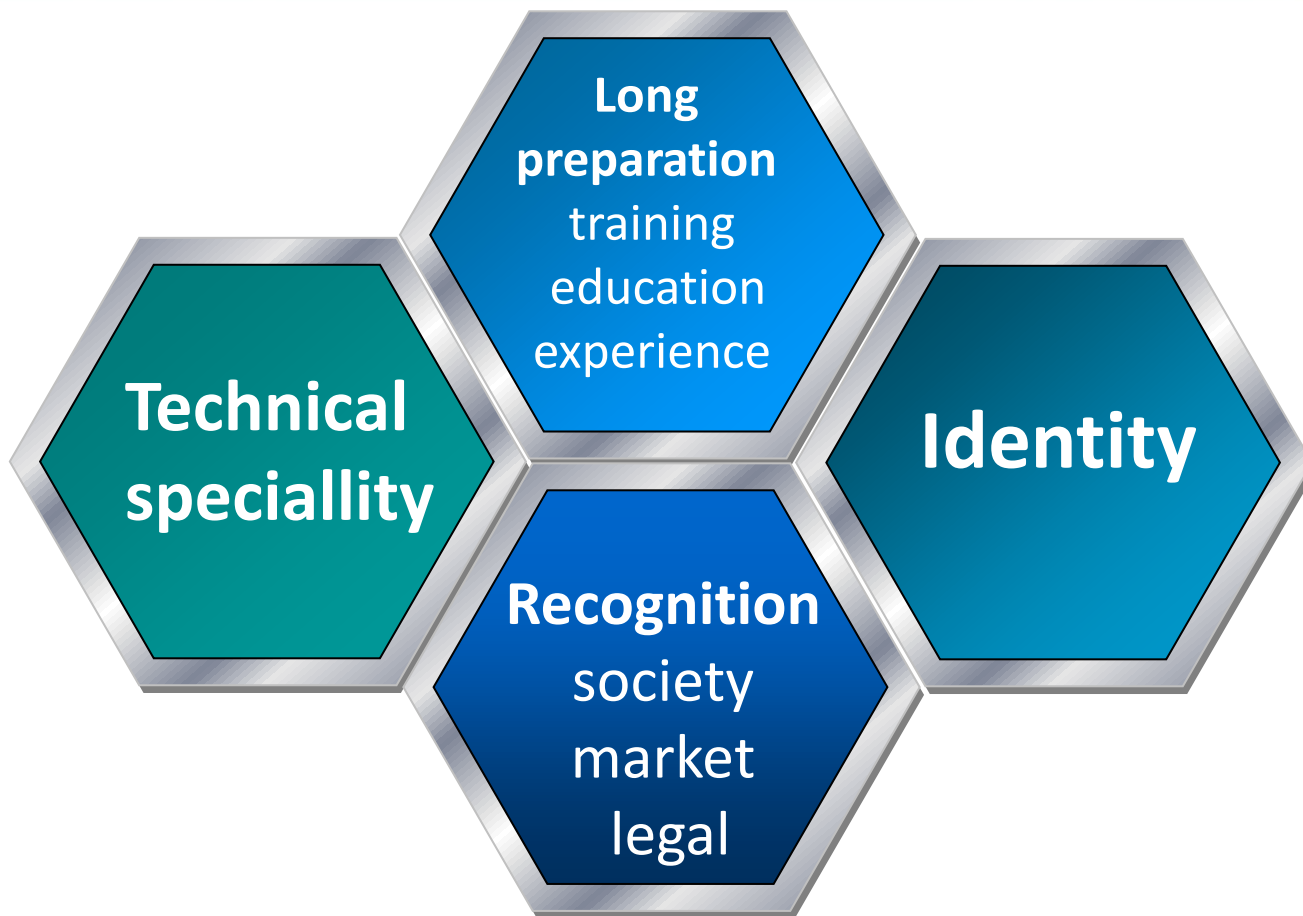


ISEKI Food Association Workshop Food Professional Regulation in EU

Wednesday 31st August 2011
Great Hall of the University of Milan,
via Festa del Perdono 7, Milan, Italy

Sponsored by





Browser address bar: <https://www.iseki-food.net/node/2869>

Page title: WEBINAR: Regulation of th...

Navigation: Pagina, Sicurezza, Strumenti, Search

ISEKI Food Association

Members only

- Dissemination Materials
- Proposed events
- Forums
 - SIG 1: Food Structure
 - SIG 2: Bionanotechnology
 - SIG 3: Scientific Networking
 - SIG 4: Bioactive Compounds
 - Social Networking
- IFA-Meetings
 - Board Meetings
 - General Assemblies

General information

- About us
- Members
- Membership application
 - Sign up
- News
- Events
- Special Interest Groups
 - SIG 1: Food Structure
 - SIG 2: Bionanotechnology

Home » WEBINAR: Regulation of the Food professions in Europe

WEBINAR: Regulation of the Food professions in Europe

View Edit Newsletter Track Visitors Clone Node export Devel

Posted in IFA eNews

Regulation of the food professions in Europe

Join us for a Webinar on June 8

REGISTER NOW

Space is limited.
Reserve your Webinar Seat Now at:
<https://www3.gotomeeting.com/register/300426838>

Food professions are not attractive. That is claimed by the food and drink industry and in general by the European higher education that has been unable to attract the best students to food science and technology programmes. To understand this problem and to propose solutions, the current status of the food professions in Europe was analysed. Few countries were found to have completely regulated professions, some others possess the regulation of the title of the profession only and the rest has no such requirement for designation of professions but usually have professional associations. The heterogeneous picture in Europe is an indicator of the difficulty to characterize the identity of the food professional, that can also be explained due to the fact that, depending on the country, the same jobs, the same functions, are frequently performed by graduates from

12:45
06/05/2012

Highlights

- From the whole work performed it was concluded that the issue about regulated professions in the field of food science and technology in Europe is important and it needs an improvement. However, it is evident also that this is a complex task
- At the same time there is also a debate about the possibility to deregulate the professions, with the idea that this will decrease the costs of regulation, remove the informational barriers and complex formal procedures and thus increase competition that will generate quality and liberate transfer on the international job market

Logical Framework

Update education/training based on actual and future food job market needs

Establishment of a framework for continual professional training and career development for the FST professionals

~~Regulation of FST professions in Europe~~

Promotion of FST to attract students

Highlights

- Europe presents a profile of apparently heterogeneous education at the level of comprehensive training related to the field of food processing. In most countries diplomas in food technology are offered, while in other countries the training offer is essentially in food engineering.
- The TRACKFAST consortium advocates a common professional identification for food science and technology education in Europe for further clarification of the labor market, increasing international mobility professionals and creating structures that enhance the quality and attractiveness of these professionals

Comparison of actual with recommended career paths

Survey

Actual career path

Basic background data

Selected parameters for career path characterization

Education and training through the career path



Low Responsibility Level (LR)

Responsible for a scope of activities under the direction of others

Medium Responsibility Level (MR)

In charge of leading a group of persons

High Responsibility Level (HR)

In charge of leading the company

Workshops/Survey

Recommended career path

Top skills and top food skills demanded by the employers

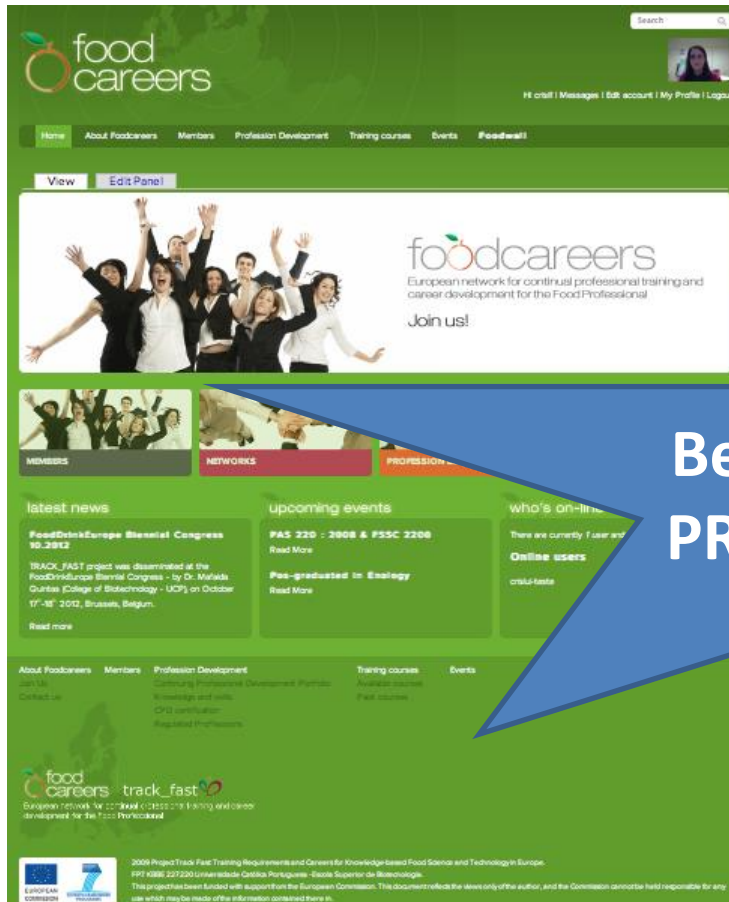
Where and when (frequency) the skills have to be acquired.



>>> Establishment of a framework for continual professional training and career development for the FST professional

→ Continual professional training and career development (CPD)

www.foodcareers.eu



Better prepared
PROFESSIONALS

AIMS:

bringing together graduates and professionals working in the food sector, both in industry and academia (**social networking**)

creation of an online network for continual professional training and career development for Food Scientists and Technologists in Europe (**information on training**)

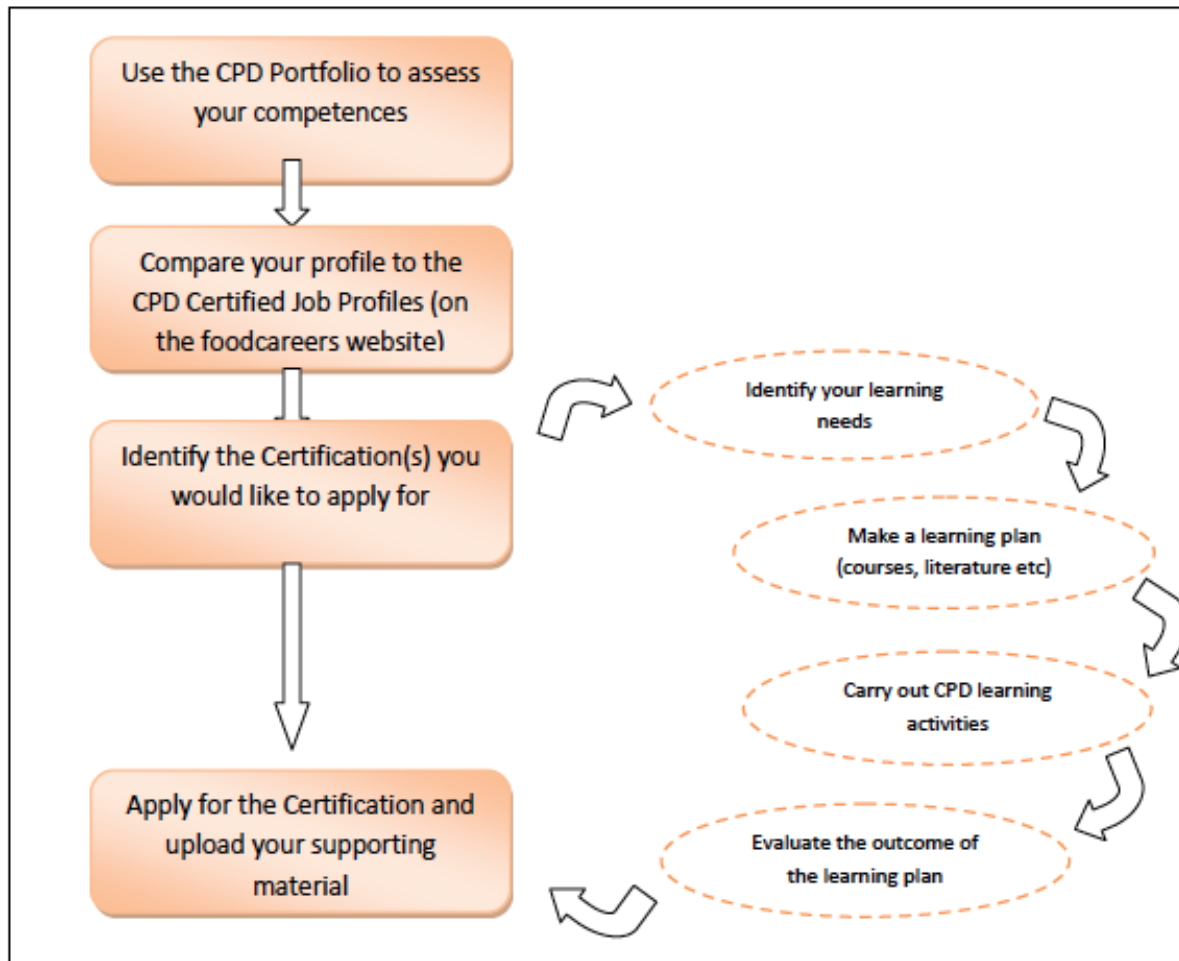
social networking and providing the guidance and tools for creating and maintaining a **continual professional development portfolio**

How does it help the food professional?

- The on-line Continuing Professional Development Portfolio
- Information on training
- Social Networking



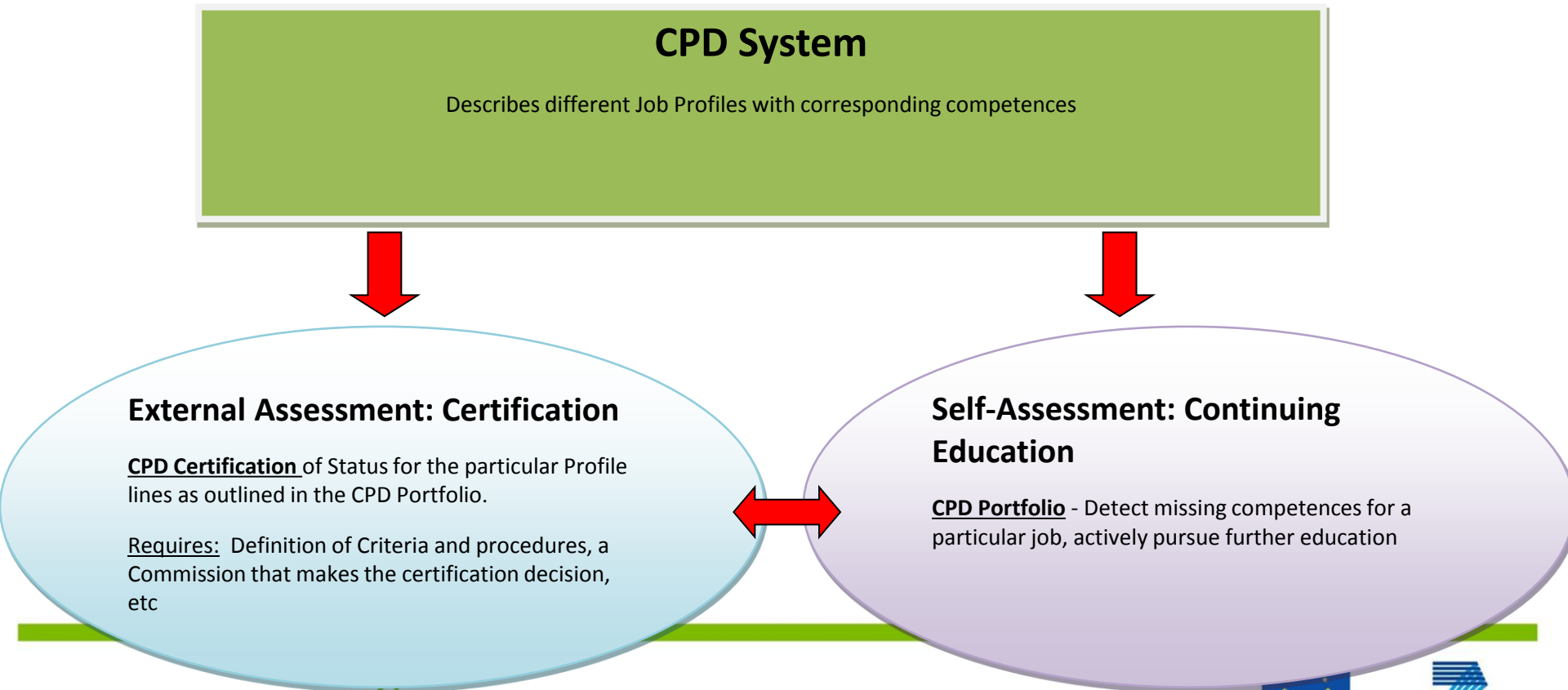
→ Development of a certification scheme for Continual Professional Development programmes



- Development of a certification scheme for Continual Professional Development programmes

“As a food professional, you may want more than just creating a CPD portfolio which can help you in your next job. You want a certificate which proves that you have the required skills and competences for a particular job anywhere in Europe. One of our aims is to propose and develop a **European certification scheme** for food careers. The assessment of your CPD portfolio will form part of the process for certification.” (<https://www.foodcareers.eu/cpd-certification>)

- Development of a certification scheme for Continual Professional Development programmes



Draft standards for the Certification of Continual Professional Development (CPD) for the Food Professional

- two important sectors: Food Quality & Food Safety, Research & Development
- each divided into three levels of responsibility: 1-low, 2-medium, 3-high

A total of 6 “Job Profiles” under the CPD Certification Scheme

Each “Job Profile”: associated with a set of qualifications that a candidate must have

Job Profiles

- **Food Quality and Safety Professional**
 - The Certified Food Quality Technologist
 - The Certified Senior Food Quality Technologist
 - The Certified Food Quality and Safety Manager
- **Food Product Development Professional**
 - The Certified Food Product Development Technologist
 - The Certified Senior Food Product Development Technologist
 - The Certified Food Product Development Manager

>>>

Motivation of young people to enter and pursue of a
career in food science and technology in Europe

→ www.foodgalaxy.org



Food Science is a **real science with real challenges**



Food Science is a **fun – targeting a “younger” audience**

A career in Food Science is a **challenging and rewarding**



➔ www.foodgalaxy.org



The screenshot shows the homepage of the FoodGalaxy website. At the top, there is a navigation bar with links for "SUBSCRIBE OUR NEWSLETTER", "BOOKMARK THIS SITE", "TELL A FRIEND", and "ABOUT US". A search bar is also present. The main content area features a central image of a galaxy with various food items and kitchen tools scattered throughout. Text overlays on the image include "The Taste of Life", "Eat therefore I am", "To eat or not to eat", "I am the king of the kitchen", "Brave new food", "A small product for the consumer - a giant process for the producer", and "MY FOOD CAREER". Below the main image, there are sections for "Food science, engineering and techno" and "Food career Nano technology". A "Highlights" section features an article titled "Ozone as a powerful antimicrobial agent can be used for decontamination of water, produce, equipment, food contacts surfaces, and" dated "Tue, 25 Sep 2012". At the bottom, there are logos for the European Commission and the project "2009 Project Track Fast: Training Requirements and Careers for Knowledge-based Food Science and Technology in Europe."

The screenshot shows the Facebook page for FoodGalaxy. The page header includes the Facebook logo, a search bar, and the name "Cristina Silva". The main content area features the FoodGalaxy logo and a large image of the galaxy-themed website homepage. Below the image, there is a section for "Foodgalaxy" with a profile picture of the logo, the name "Foodgalaxy", and the text "113 gostos - 100 falam sobre isto". There are buttons for "Gostei" and "Mensagem". A "Site" section contains the text: "Our aim is to increase the awareness to students in the EU and also worldwide for taking up a study in food science and technology and in the end choosing a career in the food industry." At the bottom, there are sections for "Sobre", "Fotos", and "Gostos" with a thumbs-up icon and the number "113".

→ Need to attract talents

CAREERS

A smorgasbord of opportunity

Food science is fun—and boasts better job prospects than many other industry niches.

BY ALLA KATSNELSON

The McHugh family has the best job work more than a decade of jobs. In fact, he says, the US Department of Agriculture (USDA) McHugh had developed the technology for making 100% fruit bars, and that helped Apple and other growers to launch a company (Apple) to create more than 100 million in revenue for the company. The firm, based in North Duxbury, Massachusetts, will still be producing a decade later and now now it's a successful company in with manufacturing questions, says the USDA's in Alaska, California, Michigan, and also takes on projects such as building new greenhouses in California, to develop which helps make those vegetables, and

working with Monterey, California, in a growing process that uses the USDA's Department of Agriculture (USDA) McHugh had developed the technology for making 100% fruit bars, and that helped Apple and other growers to launch a company (Apple) to create more than 100 million in revenue for the company. The firm, based in North Duxbury, Massachusetts, will still be producing a decade later and now now it's a successful company in with manufacturing questions, says the USDA's in Alaska, California, Michigan, and also takes on projects such as building new greenhouses in California, to develop which helps make those vegetables, and

McHugh, leader of professional food research at the USDA's in Alaska, California, Michigan, and also takes on projects such as building new greenhouses in California, to develop which helps make those vegetables, and

CAREERS

THE HEAVY COOKS

The heavy industry involvement can also bring challenges, says Megan Clements, who is finishing a food-science PhD at the University of California, Davis, and has already taken on her first job at Hargrove Cook Foods, a startup in San Francisco. Her dissertation looks at how to measure alcohol quality and is funded by the Almond Board of California, based in Modesto. "It was a marriage of convenience in some ways, but it was good training nonetheless," she says. However, she cautions that the goals of some industry-sponsored projects can be at odds with academic research. She says she needs to satisfy both academic requirements and add value to their CV. Industry sponsors can also be helpful. "If you're doing a project and you're not interested in what you originally started with, they might ask you to switch your topic because it's not what they want," she says, adding that graduate students should recognize that academic advisors can also have vested interests in industry partners that might conflict with the student's goals.

The long-term of industry brings out job prospects—a particular perk in the struggling economy. Unlike the pharmaceutical industry, which has a long history of research staff over the past few years, food science researchers and long-time researchers say that the sector has been touched only lightly by the economic crisis. According to the IFIC, cutting the new recruits had dropped by 20% in 2010, but have been creeping back up. The organization's Product development in a cross-section of research areas in the food industry earned a median of \$87,000 last year, according to a survey of 100 food scientists. Entry-level salaries start at about \$40,000 for jobs such as vice president of global research and development at a multinational food manufacturer can easily reach \$250,000, says Susan Cantello, senior executive recruiter at Open International, a recruitment firm based in Deerfield Beach, Florida, that specializes in food science positions.

ing in products such as extrudates. The company believes that taking eggs out of food preparation improves safety by lowering exposure to pathogens such as Salmonella and food-borne, as well as significantly reducing costs and increasing sustainability.

Other areas with good job prospects are nutrition and food safety. Consumers are increasingly demanding healthy foods that contain reduced amounts of fat, calories or sodium, so many benefits such as probiotics to improve digestive health or fiber to reduce the risk of heart disease. The health claims of such products must be tested, and some firms must be reformulated for specific niches.

A growing awareness of food safety has also created a need for researchers to monitor microbial and chemical contamination, and design safer food-development processes. US industry and government agencies are likely to add jobs to ensure compliance with the Food Safety Modernization Act, passed in 2011.

Each highly structured regulatory work is one of the types of government food-science jobs, says Sherman. The roles in research general research health and the public good. McHugh would like to see the USDA to be a cross between an academic and industrial position. "We still publish manuscripts and are evaluated on our fundamental research, but we also have a good ability—and it's part of our work at the USDA—to translate that technology to commercialization," she says.

Although operational academic programs provide the career entry point into a food-science career, there are opportunities for researchers in almost any basic biological, agricultural or engineering field who have a love of food. In fact, Katsnelson, a protein chemist at Kraft Foods Group in Glenview, Illinois, never expected to end up in food industry job. After spending five years as a postdoc studying protein structure at the University of Minnesota in Columbus, she grew restless about getting funding. "I had spent six months really just sitting there. With that problem, I was in a class, she saw an advertisement for a position at Kraft that asked for experience with extrudates. She decided to apply, and got the job. Katsnelson's generalist in basic research has turned out to be a strong asset. Industry has to help product developers and other scientists to product how products would work in particular products. That means understanding not only the phenomena that are supposed to happen, but also the ones that aren't supposed to happen," she says. "No one wants to discover that doesn't work."

Alla Katsnelson is a freelance writer based in New York.

Alla Katsnelson, Nature, Nov 2012

track_fast



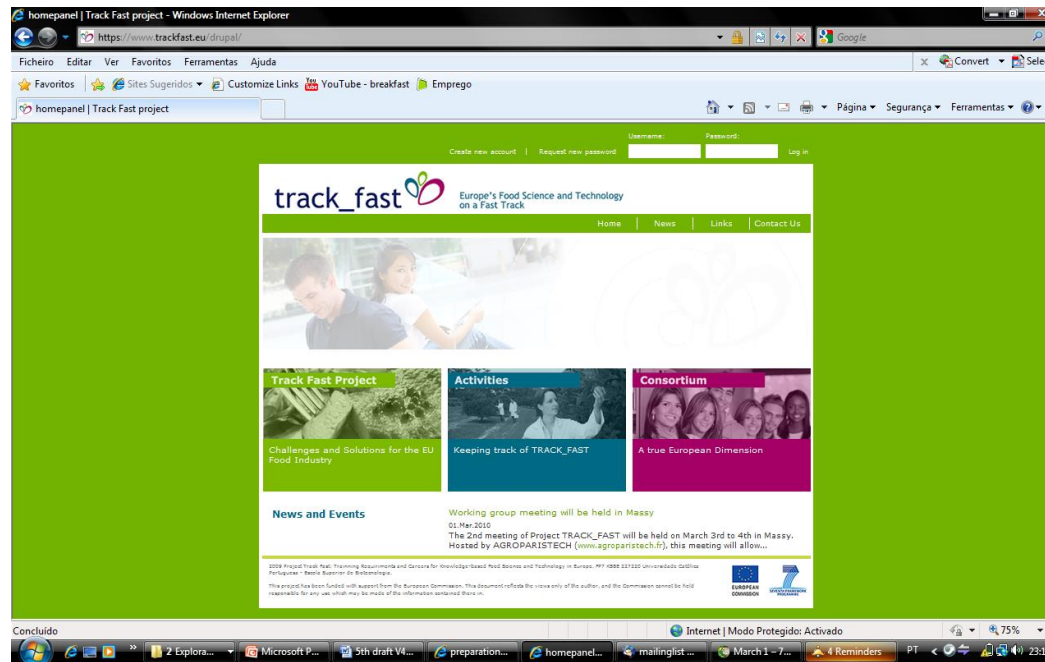
Europe's Food Science and Technology
on a Fast Track



be a part of it !

Website

www.trackfast.eu/



Communication

→ emails:

trackfast@porto.ucp.pt

clsilva@porto.ucp.pt

→ Phone:

+ 351 22 5580058

track_fast 

Europe's Food Science and Technology
on a Fast Track



Track_Fast 
Open Symposium

29th January 2013

Brussels . Belgium

