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Deliverable **D4.4**

Report on university-industry educational and training initiatives

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Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including Commission services and projects reviewers)	
CO	Confidential, only for members of the consortium (including EACEA and Commission services and projects reviewers)	
<p>Summary:</p> <p>This deliverable is an update of D4.3 and describes activities regarding university-industry educational and training initiatives developed after December 2016. Specifications of the activities can be found in D4.5.</p> <p>The list of the activities collected during the entire life-time of the project (Table 1.) was updated.</p> <p>This report includes in particular:</p> <ul style="list-style-type: none"> • the completion of the 1st edition of "FoodFactory-4-Us" competition and the planning of the 2nd edition, which will be finalized and continued each year under the responsibility of the ISEKI-Food Association • the results of tailored visits, internships • an update of intensive Academia-industry courses and the "Training the trainer" <u>module</u> • <u>and future activities to be continued after the project end</u> 		



Contents

1. Introduction	3
2. Food Factory-4-Us.....	4
2.1 Selected training activities for students by industry/company experts, professionals as guest teachers/trainers.....	4
2.2 Case studies of joint university-industry training activities.....	8
2.2.1 Completion of the 1 st edition of the virtual student’s competition “FoodFactory-4-Us”	8
3. Industry-university joint practical training initiative.....	17
3.1 Tailored visits	18
3.2 Internships	19
3.3 Academia-industry courses	19
3.3.1 Intensive Academia-industry courses	20
3.3.2 Hands-on Training on baking technology for university teachers	22
3.4 “Training the trainer” module.....	25
3.5 Other training initiatives for teachers and trainees	27
4. Ongoing and exploited joint academia-industry training initiatives.....	28
4.1 FoodFactory-4-Us students competition, second edition	28
4.2 Joint academia-industry training course „New Product Design.....	31
4.3 Students internship and exchange between academia and industry partners.....	31
4.4 Training the trainers” modules and courses	31
5. Annex I: Call for the 2nd edition of the student’s competition “FoodFactory-4-Us”	32

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1. Introduction

The main aim of WP4 is to harmonise, improve and modernize Food study programmes with respect to the industry-oriented professional skills. Moreover, a series of activities will be addressed to integrate science and technology skills into industry and to develop a guideline for the implementation of a joint “Industrial Master” curriculum.

This implies a series of actions that include the identification, selection, setting, design and development of educational and training activities with a novel training approach to food processing and engineering education by integration of education, research and innovation will be developed in a close industry-academia collaboration.

Task 4.2 and 4.3 will be properly designed in terms of contents and learning outcomes based on the results of the initial survey carried in WP1. A close interaction with WP5 for the development of technology-enhanced teaching tools and materials (e-learning, webinars, virtual industry tours) as well as WP3 with whom some activities could/would be shared is expected.

The WP4 activities will be carried out jointly developed by representatives of the industry and universities partners of the project consortium and are targeted to students, HE teachers and industry professionals.

Specifications (learning outcomes, evaluation criteria for accreditation, layout and planning of the activities) of activities have been described in D4.5.

In this Deliverable are reported and summarized some of the activities that have been planned and implemented up to February 2018.



2. Food Factory-4-Us

2.1 Selected training activities for students by industry/company experts, professionals as guest teachers/trainers

A series of training activities and tools have been identified by the project partners and are reported below:

- Classes /seminars
- Specific modules of the curricula
- Webinars
- Short training courses also carried out by using e-tools (web-conferencing software).

Besides the training activities that will be specifically designed and implemented within the EuFoodSTA project, with the aim to give a proper value also to initiatives that could meet the LO defined within the EuFoodSTA project organised and supported by the fund of the partner institutions, the project consortium agreed to include also the latter ones when their specifications fulfil the project requirements.

Thus, the list of training activities includes

(a) activities designed and developed both within the project, supported by the EU FooD-STA funds and by the involvement of the project partners

(b) activities organised by project partners but with own institutional/company funds. In particular:

Group (a): a list of seminars/webinars have been already planned within WP3, targeted to students, teachers and food professionals, and will be given by industry representatives and/or researchers on topics meeting the needs specified in D4.2. These activities will be developed also in collaboration with WP5.

The full list of the webinars for students and teachers is reported in D 4.5, **Annex I**. The specifications of these activities are reported in D3.3. as, due to the common Learning Outcomes but with different target groups, they have been developed in collaboration with WP3.



Group (b): classes/seminars, specific modules of the curricula, webinars, and of short training courses also carried out by using e-tools given by industry/company representatives organised by project partners with own funds (in-house made) meeting the Learning Outcomes specified in D4.2 will be collected and listed. Collection is ongoing until the end of the project. The aim of this activity is to have a state-of-the-art of what already is developed in our institutions/companies having as learning outcome the improvement of the technical, professional and personal skills and competences of the students in Food Studies.

An Excel file has been developed in GoogleDrive to collect all the activities that the partner institutions (both universities, companies, multipliers) are developing as joint activities between academia&industry and self-supported during the Eu FooD-STA project time that have to be included so the file will be regularly updated (Annex 1: letter sent to partners; Annex 2: scheme of the Database for training activities collection).

The list of the activities collected during the entire life-time are reported in **Table 1**

Overall the list of training initiatives organized by the partner institutions, in collaboration with industry representatives and professionals, that increased significantly in 2017, includes:

- 7 workshops
- 20 seminars
- 10 modules
- 1 exhibition
- 1 visit

Table 1. List of the activities collected during the entire life-time of the project

Food Factory-4-Us Teaching/training activities for students based on industrial expertises /practical cases Database of existing /planned training activities for HE students @ FOODSTA project institutions										
Partner	Country	City	Type of activity*	Date	Duration	Speaker(s)/ actor(s)**	Discipline/area	Title	description	Target level
			Module in a teaching courses/discipline (M)							
			Seminar (S)							1st
			Workshop (WS)			Industry/company/professional experts				2nd
			webinars (We)			Academic teacher				3rd
			Other (O) (specify)							
University of Teramo	Italy	Teramo	WS	19/04/2016	3 h	Company trainer/expert + Academic teacher	Food engineering	Food engineering virtualisation	Workshop organised in collaboration with a software company (COMSOL) dealing with simulation and virtualisation of food.	2nd, 3rd level
University of Teramo	Italy	Teramo	S	30/05/2016	2 h	Company trainer/expert - Food Technologist	Food formulation	Confectionery: formulation and processing	Seminar delivered by a food technologist working in the factory close to Teramo belonging to a multinational company	2nd and 3rd level
ESB-UCP	Portugal	Porto	W	18/03/16	4 h	Filipa Horta - Company expert	Food Nutrition	Culinary solutions for children	Workshop organised in collaboration with Nutricia - Advance Medical Nutrition	2nd
ESB-UCP	Portugal	Porto	W	08/04/16	4 h	Company expert	Food Innovation	Certification and innovation	Workshop organised in collaboration with FruLact	2nd
ESB-UCP	Portugal	Porto	S	april 2016	2h	Company expert	Dietetics	Pediatric nutrition	Seminar organised in	1st
ESB-UCP	Portugal	Porto	S	13/05/16	1 h	Ana Leonor Perdigão - Company expert	Innovation, research	Trends in infant feeding: maternal and child nutrition	Seminar organised in collaboration with Nestlé - leading Nutrition, Health and Wellness Company	2nd
ESB-UCP	Portugal	Porto	S	20/05/16	4 h	Nelson Duarte - Company expert	Safety in food chain	Pest control in food industry	Seminar organised in collaboration with a company (Rentokil) expert in pest control, extermination and deratization	2nd
ESB-UCP	Portugal	Porto	S	maggio 2016	2h	Company expert	Dietetics	Presentation of dehydrated products	Seminar organised in collaboration with Bfoods - Natural and Healthy Nutrition	1st
ESB-UCP	Portugal	Porto	S	17/06/16	2 h	Ricardo Lacerda - Company expert	Innovation with food	Emerging market ingredients	Seminar organised in collaboration with a company Nutripar - Food Knowledge supplies ingredients and services to the food industry	2nd
ESB-UCP	Portugal	Porto	S	15/07/16	8 h	Company experts	Modern distribution	Modern distribution	Seminar organised in collaboration with a company - Sonae - to evaluate different perspectives in the retail industry	2nd
AgroParisTech	France	Massy	S	01/01/2016	1,5h	Expert from companies	Food Microbiology	Microbial transformation for food	experience from industrial experts	2nd (Eng.2A=master1)
AgroParisTech	France	Massy	S	01/01/2016	3h	Professor	Food safety	Food microbiology	HACCP case study on a specific industrial process	2nd (Eng.2A) master1
AgroParisTech	France	Massy	S	01/01/2016	1,5h	Expert from companies (Sofiprotolac)	Food Quality	Quality of food products	experience from industrial experts	2nd (Eng.2A=master1)
AgroParisTech	France	Paris	S	01/10/2016	3h	Professor	Food safety	Risk analysis	HACCP case study on a specific industrial process	2nd (Eng.2A) master1
AgroParisTech	France	Massy	M	01/01/2016	23h	Expert from companies (Tereos)	Food processing	Management and maintenance	case studies and sharing experiences from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	M	01/01/2016	30h	Expert from companies (Nestlé)	Management in food	Operational marketing and management	case studies and sharing experiences from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	S	01/01/2016	3h	Expert from companies (Mane)	Food Science	Flavour formulation and ingredients	experience from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	M	01/11/2016	24h	Expert from companies (Danone)	Food processing	Engineering (plant design)	case studies and sharing experiences from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	M	01/10/2016	13h	Expert from companies (Bel, Lactalis)	Food processing	Analysis and expertise of food	case studies and sharing experiences from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	M	01/11/2016	16h	Expert from companies	Food Science	Formulation and Engineering	case studies and sharing experiences from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	M	01/11/2016	36h	Expert from companies	Management in food	Management for teams running	case studies and sharing experiences from industrial experts	2nd (Eng.3A=master2)



AgroParisTech	France	Massy	M	01/10/2016	6h	Expert from companies (Serva)	Food safety	Microbiological food safety	experience from industrial experts	2nd (Eng.3A=master2)
AgroParisTech	France	Massy	M	01/11/2016	12h	Professor	Food safety	Microbiological food safety	HACCP case studies from industrial experiences	2nd (Eng.3A=master2)
ESB-UCP	Portugal	Porto	S	14-10-2016	3 h	Company experts	World food day c	The climate is changing ... Ag	Commemorative seminar where several renowned experts in the fields of climate, agriculture and food were invited to speak in the name of their companies: "Cantinho das Aromáticas" and "Sovena - Elaia"	2nd
ESB-UCP	Portugal	Porto	S	01/11/2016	2 h	Company expert	Pediatric Nutritio	Presentation of products in	Discipline module in collaboration with a company - Nutricia/Danone - pioneer in the development and investigation of enteric nutrition	1st
ESAC-IPC	Portugal	Coimbra	S	30/09/2016	2h	Professional expert	Food Safety	Continual Improvement in F	An approach to continual improvement in food distribution in the field of haccp	2nd
ESAC-IPC	Portugal	Coimbra	S	07/10/2016	2h	Company expert	Food processing	Labeling of packaged and un	experience from companyl experts	2nd
ESAC-IPC	Portugal	Coimbra	S	21/10/2016	2h	Company expert	Nutrition	Nutrition - Need or Luxury?	experience from companyl experts	2nd
ESAC-IPC	Portugal	Coimbra	S	04/11/2016	2h	Industry expert	Food Safety	Hygienization in Food Indust	experience from companyl experts	2nd
ESAC-IPC	Portugal	Coimbra	S	11/11/2016	2h	Professional/Company Experts	Innovation	Development of new produc	experience from companyl experts	2nd
University of Hohenheim	Germany	Stuttgart	Visit	always during	5 days	Experts from companies	R&D, Processing,	Study trip to companies of fo	a voluntary activity where students go on a study trip with their professor to visit different companies in the food industry where experts	2nd
University of Hohenheim	Germany	Stuttgart	W	December	8 h	Experts from industry (DSM, BA	Food Processing, Innovation	Encapsulation of Functional	some of the lectures are given by experts from different companies where they give an overview over the application of encapsulation in industry	3rd
University of Hohenheim	Germany	Stuttgart	W	January	1 day	Experts from industry (DSM)	Encapsulation, Innovation	Encapsulation of Functional	As part of the course "Encapsulation of Functional Food Components" a study trip is conducted to DSM in Switzerland where experts talk about applications in industry and students are given a tour through the plant	3rd
University of Hohenheim	Germany	Stuttgart	W	February	10 h	Experts from Industry	Food Processing	Plant foodstuff technology 3	some lectures are given by industry representatives, the course also includes 4 excursions to companies of the field	3rd
University of Hohenheim	Germany	Stuttgart	M	October	5 days	Professional Expert	Sensory	Course about sensory evalua	a voluntary practical course one week before the beginning of the winter semester. An expert teaches how to properly evaluate foods in the sense of sensory	3rd
University of Hohenheim	Germany	Stuttgart	Exhibition	summer	2 days	Industry representatives	all	Life Science exhibition	An exhibition of different companies in the field of life science	all
University of Hohenheim	Germany	Stuttgart	W	march	1 day	Professors, PhD students, industry representatives	Dairy technology	Dairy technology seminar	Professors, PhD students and experts from industries give talks about different aspects concerning technology in dairy	3rd
University of Teramo	Italy	Teramo	M	12-24 Februar	assign	professors, industry representa	food technology	New Food product developm	an intensive module of 2 in-class module where teachers and industry representatives gave classes on different topics related to innovation and new product development coordinated by a professor	2nd and 3rd
University of Teramo	Italy	Teramo	S	27 aprile	2 h	Industry representatives	Food formulation	Colouring foodstuff	Seminar on applications and legislation on colouring foodstuff	2nd & 3rd



2.2 Case studies of joint university-industry training activities

This activity includes the following:

1. COLLECTION OF ALREADY EXISTING JOINT UNIVERSITY-INDUSTRY TRAINING ACTIVITIES
2. INNOVATIVE “EUROPEAN” FOODSTA JOINT UNIVERSITY-INDUSTRY TRAINING ACTIVITIES

1. COLLECTION OF ALREADY EXISTING JOINT UNIVERSITY-INDUSTRY TRAINING ACTIVITIES, carried out within the study programme (e.g. Master degrees, specialization masters, PhDs, etc.) or in other academic supported environment (e.g.: student’s teams national and EU competitions eg. Ecotrophelia, food-labs, ...).

Study programmes of the FooD-STA partners universities that include official collaboration between academia and industry were collected within an Excel file shared in the dropbox (see D4.3, Annex III).

All the University partners indicated the inclusion in the study programmes in Food Science and Technology of an internship for students of different length and ECTS, either compulsory or based on voluntary choice. None university indicated the existence of joint master study programme while University of Teramo indicated the availability in the PhD programme in Food Science of positions for “Industrial PhDs”. In this case employees of companies can apply for a PhD position based on a specific grant between the university and the company itself. Every year, two positions are available.

2. INNOVATIVE “EUROPEAN” FOODSTA JOINT UNIVERSITY-INDUSTRY TRAINING ACTIVITIES.

2.2.1 Completion of the 1st edition of the virtual student’s competition “FoodFactory-4-Us”

The virtual student’s competition “FoodFactory-4-Us” was completed as specified in 4.2 and planned in 4.3:

Location: virtual and a specific webpage was set (<https://www.food-sta.eu/FoodFactory-4-Us-International-students-competition-game>)



Competition strategy: different teams will present and develop projects with the same topic so the teams will work in an interdisciplinary but competitive framework.

Topic: In this case, in order to avoid overlapping with other existing competitions (e.g. Ecotrophelia), it was decided to focus the competition on projects that are aimed to identify, design and develop solutions and ideas relevant for food industry with specific action on improvement and innovation of food processing as well as quality and safety of foods. The industry and academia partners (Frulact, Nestlè, GBFoods, ACTIA, Federalimentare) of the project have been involved to collect some suggestions to upload in the website as examples for the student's teams.

Timing:

- 15th October till 15th November: registration of the teams
- 20th November: acceptance of the teams and approval of the projects topics
- 28th February 2017: submission of the project presentation and report
- March 2017: Final presentation of all the projects at the FoodFactory-4-Us- & Virtual workshop the results of the teams in presence of industry and multiplayer representatives and nomination of the best 1st FoodFactory-4-Us team

Scientific organizing team: Florence Dubois-Brissonnet (AgroParisTech), Cristina L.M. Silva (UCP), Gerhard Schleining (BOKU), Paola Pittia (UNITE).

Instructions: specific rules were defined and uploaded at the specific website. To protect projects developed also in collaboration with companies, a specific document was prepared and made available to the participants.

Launch of the call for projects: All partners received by email the message below:

Dear FoodSTA partner,
as announced at the last Paris meeting, we are ready to welcome registrations for the "FoodFactory-4-Us - International students competition game".
Information and registrations are available at the following link

<https://www.food-sta.eu/FoodFactory-4-Us-International-students-competition-game#>



Deadline for registration: 15th November

Feel free to disseminate the information about this game open to university academic teams to your students as well as to colleagues of your university and/or from other universities all over the world.

For more information, please contact Paola Pittia, ppittia@unite.it

Each partner was asked to disseminate the student's competition in his/her university and in other universities of the same country and to any other university potentially interested.

In addition, a leaflet was prepared (D4.3, Annex IV) and disseminated via email to the over 9000 contacts of the ISEKI-Food Association distribution list and messages as news were sent to other organisations and universities.

Evaluation board: The Scientific committee has been involved in the acceptance of the teams that will apply to the competition based on the title, objectives and aims submitted upon registration. To evaluate the final ppt and reports of the teams the Scientific Board has involved also partner industry representatives (Frulact), and representatives of the ISEKI-Food Association. Four people have been included in the evaluation board of the final project reports.

Further development after specification in 4.3

Sponsor: ISEKI-Food Association (200 Euro winner team + 1-year membership ISEKI-Food Association, a book of the Springer-ISEKI-Food books series (for each member); free entrance at the 5th ISEKI-Food Conference 2018)

Initially registered teams: 15 (11 from EU: 6 NL, 2 FR, 1 IT, 1 PT, 1 AT; 4 No-EU: 1 PE, 1 MX, 1 MA, 1 AU).

Projects title and objectives: see **Table 2**



Final teams that completed for the award (report & presentation submitted): 8 (see **Table 3**). The remaining teams didn't submit the report and the ppt presentations according to the rules while present at the Virtual meetings (see presentations).

Evaluation of the projects: each team was asked to submit a report following a specific form available at the <https://www.food-sta.eu/FoodFactory-4-Us-International-students-competition-game> along with a ppt presentation. The evaluation board was invited to read the reports and look at the ppt presentations and give scores based on specific criteria that were selected in a preliminary virtual meeting.

The criteria used are the following:

- Project: innovation, potential application, potential benefits
- Report: quality of the strategy and development (against target objectives), overall quality
- Presentation: quality and clarity.

Table 2: list of the projects of the FoodFactory-4-U

Ser	University	Country	Team name	Project topic/title and aims
1	Universidad Nacional José María Arguedas	PE	la canasta de la alimentación	Title: Extensibility Shell life of artisan bread with substitution Partial of wheat flour for native potato flour variety bull blood. Objectives: Improve the shell life of the bread of mass consumption with the incorporation of natural antioxidants of flavonoids and phenols from native potato; improved quality safety of the production of artisan bread; transfer technology to artisan producers of the Andahuaylas city
2	Wageningen University	NL	Avo Cadeau	Development of Yoghurt Product Containing Antioxidant from Avocado Seeds Aims: To increase biofunctionality of yoghurt product and decrease waste amount from avocado
3	Hassan II institute of agronomy and veterinary medicine	MA	One team, one spirit	THE TREATMENT AND VALORIZATION OLIVE WASTEWATERS Objectives: - To find a new ecological method of the treatment, - To valorize the olive wastewaters and use them in a beneficial way, - To minimise their pollutant effect on the environment.
4	Wageningen University	NL	WUR	Project title: Incorporation of Friendly Bacteria BsIA produced by Bacillus subtilis for the Development of a Temperature-Stable Ice cream Aim: Melting properties consider as one of the important factors during ice cream manufacturing. If the ice cream melting very quickly it made disadvantages for industry and also for consumer. A protein called BsIA which is a bacterial hydrophobin, produced by bacillus subtilis. Hydrophobins are family of cysteine -rich proteins expressed by filamentous fungi. They are known for their ability to form water repellent biofilm on the surface of an object. It is used in the ice cream as an emulsifier and it works because it binds ingredients together tightly (fat, air, water) and also keeping the structure together. Since the water is tightly bound, no more ice crystals are found as no water separation occurs. Therefore, if this type of protein is used, some of the fat could be replaced that is used to stabilize the water-oil mixture and thus eventually lowering the fat content with no taste difference. BsIA also could help to create smooth texture of the ice cream.
5	Wageningen University	NL	Grin Snackers	Project topic : Process and product innovation in reducing fat content in deep-frying chips. Project aim : The project is focusing on edible coating on chips surface before the deep-frying process so it can reduce the oil uptake. This will improve nutritional value due to lowering of fat content in the product and also help industry to comply with the current increasing healthy trend.
6	Wageningen University and Research Centre	NL	Idea Labs	Development of a temperature-stable chocolate for tropical countries (hot climate countries)
7	Universidade Católica do Porto - Escola Superior de Biotecnologia	PT	Foodreamers	Glair Biscuits
8	Università degli Studi di Teramo	IT	MamaFood	Raviolado: a product designed for pregnant women and for diets with folic acid supplement. The objective of our project is the development of a suitable product for the nutritional requirements of pregnant women
9	Wageningen University and Research	NL	MFQ Pro-team	The role of the food industry in the problem of malnutrition among elderly The objective is to gain insight into how the food industry can reduce the confusion and distrust regarding functional foods, in order to enhance the intake of proteins among functionally independent elderly.
10	Wageningen University	NL	Child bright	Enhancing the quality life of the elder by food The number of the elderly people has been increasing year by year all over the world; however, their body functioning is also declined to result in changing in eating behavior and limiting food enjoyment. Due to this facts, the aim of our project is enhancing the quality life of the elder by food. Our approach will include three aspects: nutrition, food appreciation, and usage. The information of current products and promising innovation and technology will be covered.
11	BOKU- University of Natural Resources and Life Sciences, Vienna	AT	BOKU Bon Vivant	How to adapt a food product to elderly people? Aim: new formulations to improve the nutritional value of products for elderly people
12	AgroParisTech	FR	AgroTeam	How to deal with 20% salt reduction in cooked ham while keeping the same shelf-life?". Objectives: o protect public health, the salt content has to be reduced from 20 % into food products including ham. However, this should not be done at the expense of the products' shelf life because this could be difficult to accept for a consumer. That is why there is a need to find new and creative solutions to release a commercially available ham like : - using nitrites - using microbial flora which is able to compete with pathogenic and spoilage flora - using phages
13	AgroParisTech	FR	AgroMassy	Development of a new product based on the valorization of by-products. The aim of this project is to propose a way to the food industries to use their by-products, either by transforming by-products directly in other products, or by extracting components of interest from by-products and using these components in other products. At the final submission, we hope to present : - the process from the by-product to the new product, - the dimensioning of the process and the cost of the facilities.
14	Instituto Tecnológico y de Estudios Superiores de Monterrey,	MX	BerryIQ	Pretreatment and drying methods for the production of crunchy blueberries. Aims 1) Search for a process to remove the wax coating from the surface of blueberries.2) Establish the conditions for partial dehydration of blueberries through osmotic dehydration. 3) Establish the conditions for an air drying method that produces a crunchy texture in blueberries. 4) Evaluate the crunchiness of dehydrated blueberries.
15	University of Tasmania	AU	Maussel	Microbiological assessment and shelf life extension of modified atmosphere packaged seafood



Table 3: list of the projects and teams that participated to the final award session.

14:00	Opening and welcoming session	Paola Pittia (ISEKI-Food Association & University of Teramo, Italy) Gerhard Schleining (ISEKI-Food Association & BOKU, Austria)
14:10	Keynote presentation	Succeeding through Education, Basic/applied R&D in Innovative Academia/Industry Partnerships Sam Saguy Professor Emeritus, The Hebrew University of Jerusalem, Israel and Visiting Professor, Università degli Studi di Teramo, Italy
14:30	AgroTeam (AgroParisTech, France)	How to deal with 20% salt reduction in cooked ham while keeping the same shelf-life?" Sophie Parent
14:45	Avo Cadeau (Wageningen University, The Netherlands)	Development of Yoghurt Product Containing Antioxidant from Avocado Seeds Stefani Hartono
15:00	BerryIQ (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico)	Pretreatment and drying methods for the production of crunchy blueberries Andrea Maribel Castillo Treviño
15:15	FooDreamers (Universidade Católica do Porto, Portugal)	Glair Biscuits Bruna Mendes
15:30	Grin Snackers (Wageningen University, The Netherlands)	Process and product innovation in reducing fat content in deep-frying chips Daniella Rojas
15:45	MamaFood (University of Teramo, Italy)	Raviolado: a product designed for pregnant women and for diets with folic acid supplement. product for the nutritional requirements of pregnant women Leonardo Di Antonio
16:00	One team, one spirit (Hassan II institute of agronomy and veterinary medicine, Morocco)	The treatment and valorization of olive wastewaters Ben Mahjoub Manal
16:15	WUR (Wageningen University, The Netherlands)	Incorporation of Friendly Bacteria BslA produced by Bacillus subtilis for the Development of a Temperature-Stable Ice cream Hikmat Masri
16:30	Awarding session	Gerhard Schleining (ISEKI-Food Association & BOKU, Austria) and Rui Costa (ISEKI-Food Association & Instituto Politecnico de Coimbra, Portugal)
16:45	Conclusions and closure	

Virtual meetings:

- 19 December 2016 (https://www.food-sta.eu/sites/default/files/basicpage_files/FoodFactory-4-Us_International-students-competition-game_INTRO.pdf) ,
- 6 February 2017 (https://www.food-sta.eu/sites/default/files/basicpage_files/FoodFactory-4-Us%20%20International%20students%20competition%20game_INTRO_2.pdf)



At each of the virtual meetings representatives of almost all registered teams attended. At the first virtual meeting each team was asked to present them self and briefly introduce their project (objectives).

Final Virtual Workshop: 29 March 2017

This final event of the students' competition was designed as a Workshop with a keynote speaker (prof. Sam Saguy) followed by the projects presentations and the final awarding session that was presented by prof. Rui Costa, appointed chair of the evaluation board.

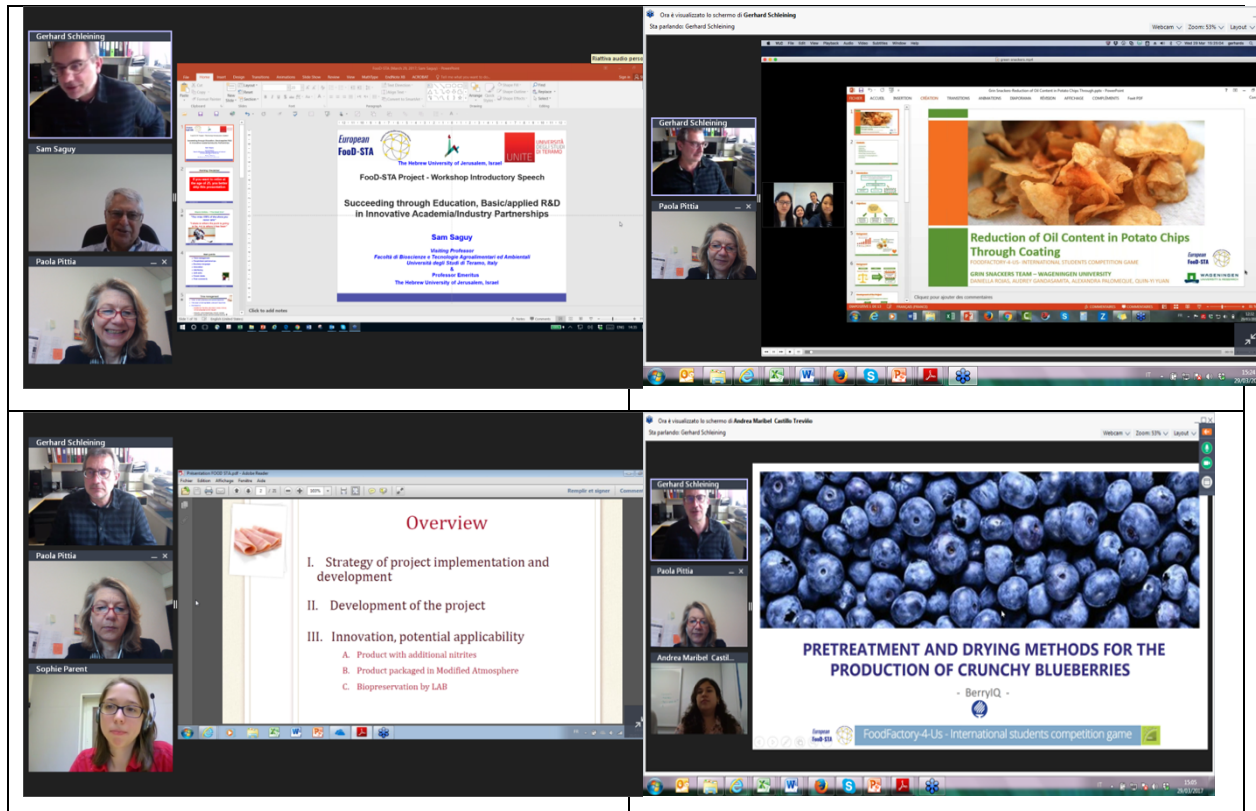
The event was an open and public one and disseminated via email and social networks (ISEKI-Food Association, EU FooD-STA, etc..).

Some screenshots taken during the virtual workshop are reported in Figure 1

- [Programme of the Virtual Workshop](#) (see link)
- Record of the Virtual Workshop: <https://www.youtube.com/watch?v=JltoaK2U3y4> ([link is external](#))
- Ppt presentations: <https://www.food-sta.eu/FoodFactory-4-Us-International-students-competition-game>

Winning team: BerryIQ (Mexico)

Figure 1: Screenshot of the final Virtual Workshop



Intellectual Property Right (IPR) aspects: instructions were reported in the web page of the competition; when project teams selected “YES” upon submission of their registration, evaluators were asked to sign a specific Non-Disclosure Agreement document (**D4.3, Annex IV**).

Certificates: All the teams that submitted regularly the reports and ppt presentation of their project and participated at the final virtual workshop received a “Certificate of attendance”. The winner team received also a certificate of award (Figure 2).

Figure 2: examples of certificates of participation and certificate of award



Self- evaluation of the participant teams: a questionnaire of quality evaluation of the FoodFactory-4-Us competition was sent to all the registered participants of the teams including also the those that eventually didn't submit the final report (See *Deliverable 4.6*).



3. Industry-university joint practical training initiative

Under this section, tailored educational and in-factory training activities jointly designed between the industry and the partners' universities including the industrial placement of students and HE teachers are listed.

Due to budget restrictions and in order to allow the best contribution of the project partners (students, teachers, industry representatives) also under this framework will be considered:

- activities that are supported by other initiatives (e.g. Erasmus+ students, staff exchange) or self-supported fitting with the specific learning outcomes selected in the EU-FoodSTA project.
- Activities & trainings specifically developed within the project with the support of either project funds/endorsement or institutional/private funds.

In this framework it was decided to include activities referred to and having as target:

- HE students (all degree levels)
- Teachers, lecturers of HE institutions
- Industry representatives both charged for trainings, tutoring and supervision of HE students and coordinators of joint HE/industry projects having educational and professionalization purposes.

3.1 Tailored visits

to food factories, labs, research institutes for professional purposes

Target: students, teachers, industry representatives

The syllabus, rules and forms to be filled in (Form B + Form B-report) are reported in D4.5, Annex II).

Results: 9 forms B for visits of EuFoodSTA HE-teachers in food companies were filled. Moreover, three visits were specifically organized for HE partners as group visit during the project in correspondence to the project meeting. In particular, the local organisers planned and supported the visits at Frulact (Portugal, March 2016), Extractis (France, October 2016) and Ritter Sport (Germany, April 2017). Evaluation of the visits is reported in Deliverable D4.6. Pictures taken during the visit in Frulact are reported in Figure 3.

Figure 3: Pictures taken during the seminars and visit in Frulact (Porto, PT).





3.2 Internships

It is referred to any activity that imply the development of specific on-place training activities within a specific plan including research, educational or training objectives.

Target: students, teachers, industry representatives

A syllabus, rules and forms to be filled in (Form C + Form C-report) are reported in D4.5, Annex II.

Results: 22 forms C for student internships were filled. Reports of the evaluation are reported in Deliverable D4.6. As many partners have internships compulsory as training in the study programme, it is worth to notice that each partner was invited to add only in this activity only internships promoted by the EU FooD-STA and having as Learning Outcomes those defined within the project.

Beyond the end of the project, in March 2018, one Master student of the University of Teramo started a working training supported by an Erasmus+ student traineeship at Frulact (PT).

3.3 Academia-industry courses

All universities of the project consortium were invited to promote the setting and implementation of joint academia-industry training initiatives for Higher Education students, where not yet existing.

The University of Teramo (IT), initially planned to organize a joint specialization course for graduated students on “Development and Management of Innovation” in collaboration with another Italian University (University of Salerno) and the Innovation Center of Food Industries of the Abruzzo Region. However, due to administrative issues arisen during the organization, while an agreement was already defined and an initial draft of the programme (1 semester, 60 ECTS) was stopped and abandoned.

The University of Teramo, however, willing to contribute to implement joint initiatives, in collaboration with the International Master degree programme in Food Science and Technology and the PhD study programme in Food Science designed and impended an



optional module (4 ECTS) aimed to improve the skills on “New Product Development” of 2nd level and PhD students. It has been delivered as an Intensive study module made of face-to-face classes and seminars given by academia representative of different disciplines, industry representatives and professionals, complemented by a project that students’ teams will carry out in collaboration with food industries.

Learning outcomes

- Technical/sector specific skills: food innovation, food product design, management and business
- Transversal/soft skills: problem solving, communication, entrepreneurship, critical thinking

Duration: one semester, included the project development and presentation

Place: Teramo (University of Teramo)

Timing: Registration/enrollment: January 2017; start and development: February - June 2017.

3.3.1 Intensive Academia-industry courses

Two weeks of intensive classes were carried out with the contribution of the visiting professor prof. Sam Saguy and several teachers of different disciplines and Faculties of the University of Teramo (Food Technology, Food Microbiology, Nutrition, Agro-Food Economy, Marketing, Advertisement), complemented by seminars and Round Tables with the contribution of local industry representatives and professionals including:

- Daniele Rossi, Delegate Research & Innovation, Area Sviluppo Sostenibile e Innovazione, Confagricoltura
- Dr. Fausto Santilli - R&D, Process Engineering & Tobacco Product Manager, Irplast Film Div. & Dr. Stefania Castiello R&D and Regulatory Affairs Manager, Irplast (packaging company)
- Di Carlo William - President, Food Innovation Center; William Di Carlo Confetti.
- Dr. Francesco Fenga - Fenga Food Innovation
- Dr. Bergogni Roberto - Gelco (confectionery)

During the classes a close collaboration between the university teachers and a small company of traditional candies (confetti William Di Carlo) was set. A proactive involvement of students in a project targeted on the development of innovative candies with improved

healthy quality attributes responding to modern market needs and consumer expectations was then set and implemented from beginning of March until the end of May 2017.

Two teams of students coordinated by prof. Pittia Paola worked in an interdisciplinary environment within the “New Product Development,” “Food Ingredients and Formulations” and “Agri-food business” courses to design innovative confetti products.

A close interaction with the company was set from the onset to identify the target quality attributes and commercial market of the new products and in a series of visits to the factory, students acquired the technical skills to produce the innovative confetti.

At the end, two different innovative and healthy confetti products, one sweet, one salted, were designed, implemented on pilot scale. A public event was also organised to present the new products and the successful collaboration between the Master degree students of the Int. Master Food Science and Technology students and the William Di Carlo confetti company.

Students evaluated positively the experience and in the Academic Year 2019-20 the Intensive programme will be included officially with the same structure in the study programme of the Master degree in Food Science and Technology in collaboration with food companies.

Figure 4: Pictures of the final products and during the project





3.3.2 Hands-on Training on baking technology for university teachers

BOKU (University of Natural Resources and Life Sciences Vienna), **ISEKI-Food Association** and [ICC](#) (International Association for Cereal Science and Technology) organised a tailor-made workshop "**Hands-on training on baking technology**" for a limited number of people who are teaching cereal technology. The aim of the 2½-day workshop was to raise awareness of university lecturers on what is practically happening in the industry, in order to give students the necessary information and to involve industry in training the teachers. The workshop was carried out at the bakery labs of [STAMAG GmbH](#), an international operating enterprise in the fields of malt and baking ingredients and certified by the **ISEKI-Food Association** according to the [EQAS-Food Certificate scheme](#) as a European Qualifications Framework level 4 course.

**“Hands-on Training on Baking Technology”
CPD certified Workshop, Vienna, 21-23 November 2017**

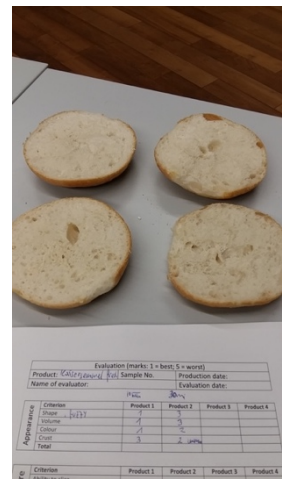


Food-Studies & Training Alliance
<https://www.food-sta.eu>

The workshop started with a half day theoretical introduction at BOKU. The trainer, Alfred Mar, has worked for many years in the bread industry and as a lecturer in cereal technology at BOKU gave four lessons on the theoretical aspect and, in the following two days, guided hands-on training in the bakery labs of Stamag. At Stamag, the seminar was supported by the quality and product development management and three master bakers in the three scopes: bread and rolls, fine bakery ware and confectionary.



Under the guidance of the Alfred Mar, professional bakers of the STAMAG team for product development demonstrated various effects of composition, processing parameters and equipment on the quality of selected products. The participants, from Austria, Estonia, France, Germany, Greece, Latvia and Portugal, had hands-on experience during the process and then sensorically analysed the products and discussed the resulting effects together with the experts.



The participants, university teachers and researchers in the fields of cereal and baking technology, from Austria, France, Germany, Estonia, Lithuania and Portugal, got involved with the training in an active and ambitious way. Theoretical introduction and practical



experience motivated many intensive discussions. The demonstration of manual and partly-mechanical making of traditional Austrian baked goods, such as rye-mixed bread, “Kaiser-rolls” and braided “Zopf” as well as the manufacturing of worldwide consumed products consumed world wide, such as croissants and muffins was the aim of the hands-on training.



Up to date methods, such as deep-freezing and in-store baking were important issues of the practical part of the seminar.

The participants participated in the trials and production of the baked product-samples and, at least, were challenged in systematic sensory evaluations. At the end of the seminar the participants proved the achieved know-how in a multiple-choice test, which was managed by all of them.

The very positive feed-back of the participants motivates for continuation of this new seminar format. Proposed issues are e.g. whole-grain, gluten-free and alternative ingredients (grains other than wheat and rye) and pseudocereals.





3.4 “Training the trainer” module

The first edition of this module was designed and developed within the Erasmus TN project network ISEKI_Food 4 (www.iseki-food4.eu) with a positive impact on the participants held from December 2013 till May 2014 with the participation of 15 lecturers from all over the world. The ISEKI_Food association gave the availability to organize a second edition of this training course in collaboration with the EU Food-STA project that will take care of the practical aspects. The contents of this second edition have been improved in order to meet the LO identified within the EuFoodSTA project. This module is planned to have a blended teaching approach (10 modules by distance/e-learning + related activities + 1 practical session). The 2nd edition planned in 2017, couldn't start due to some organizational constraints.

It will be proposed and organized under the **Food-STA center** with low/no costs for the EU-Food-STA partners of the project at the end of 2018 and open to any interested participant.

Learning outcomes

- Technical/sector specific skills: innovative teaching methods, educational approaches (blended, student-centred), ethical issues



- Transversal/soft skills: problem solving, communication, critical thinking

Duration: intensive training programme 3 months + 1-day final examination/evaluation

Place: virtual (moodle e-learning platform ISEKI-Food Association platform) + 1-2 days final evaluation workshop.

Timing: Registration/enrollment: September 2018-January 2018; start and development: January - June 2019.

Here below the list of the chapters/modules planned for the 2nd edition of the “Training the Trainers”

- **Chapter 1.** Introduction to innovative teaching Richard Marshall, (Bath Univ, UK)
- **Chapter 2** Student centered learning. Problem Based Learning Adelino Santos, Susana Gonçalves (Coimbra Polytech, PT)
- **Chapter 3** Experiential learning applied to food laboratories and industrial stage Sinead Ryan (UCD) and Lynn McIntyre (HU)
- **Chapter 4** Blended learning strategies Luís Cunha (Fac. Sciences, Porto Univ, PT) and Ana Pinto de Moura (Open Univ, PT)
- **Assessment** (March 2^o half)
- **Chapter 5** Innovative teaching strategies for product development. Peter Ho (U Leeds) and Kris Kristopherson (Uiceland)
- **Chapter 6** Virtual experiments in food science/Applied computer and modelling to food studies teaching and learning (Francesco Marra- Ferruh Erdogdu)
- **Chapter 7** Food Ethics and Professional Ethics (Marco Dalla Rosa (Univ of Bologna, IT), Anna McElhatton (Univ of Malta, MT)
- **Chapter 8** Tools for academia-Industry interactions. Paola Pittia (U Teramo, IT) & Jesus Frias (DIT, IE)
- **Chapter 9** Tools for outreach/extension activities among other stakeholders (inclusive entrepreneurship) (Alexandrina Sirbiu)
- **Preparation (June 2^o half) and Final Oral Presentation (July 2019)**



3.5 Other training initiatives for teachers and trainees

The EU-FoodSTA project has promoted the development of training activities for teachers and young scientist interested to enhance the skills and competences on practical aspects of food sciences and technology in collaboration with industries and any association or project that can either support or sponsor their organization.

During the development of the project up to Sept 2016, the contacts with some partners lead to the organization of the following trainings:

- CPD CERTIFIED Training on "R&D and Innovation Management System – Frulact as an example" (<https://www.food-sta.eu/node/130>) Target: teachers
- CPD CERTIFIED Training "Characterizing antimicrobial efficiency more quickly and more efficiently in foods or food environments" (30th March 2016) (<https://www.food-sta.eu/node/129>)
- Joint Trafoon-FoodSTA Training workshop on Entrepreneurship (Vienna, July 2016), (CPD CERTIFIED)in collaboration with BOKU, the EU H2020 Trafoon project and the ISEKI-Food Association (https://www.food-sta.eu/event_2016-7-05_enterpreneurship)

4. Ongoing and exploited joint academia-industry training initiatives

During the project duration the project consortium decided to invest on and exploit some activities whose results were positively evaluated by the FOOD-STA project partners for their potential impact and good follow-up on the skills and competences acquired by the participants and in particular:

1. **FoodFactory-4-Us students competition**
2. **Joint academia-industry training course „New Product Design „ (@ University of Teramo)**
3. **Students internship and exchange between academia and industry partners**
4. **Training the trainers modules**

Project partners in the last months of the project have started the planning (Hands-on in Bakery technology, 2nd edition, New Product Design course) or started the development of the new editions of successful activities (i.e. FoodFactory-4-Us, students' internships).

4.1 FoodFactory-4-Us students competition, second edition

After the 1st edition the members of the Scientific Committee of the student's competition started an internal discussion on the possibility to organize a 2nd edition based on several emails of interest on following new editions received by the coordinator of the Scientific Committee and sent by some students and teachers worldwide.

Partners were aware of the potential impact of such competition on the students' community as well as for the FOOD-STA project, while a reduced project duration and staff time availability was the main constraint to a 2nd edition to be immediately started if the same timing of the 1st edition has to be respected.

After various Virtual meetings, in December 2017, at the meeting in Rome, the WP4 coordinator proposed to launch as soon as possible the 2nd edition of the Foodfactory-4-Us with the support of all the project partners. Meanwhile, thanks to the collaboration with the ISEKI-Food Association, an agreement was also defined with an international organization dealing with food packaging located in Italy (Gruppo Scientifico Italiano di Confezionamento Alimentare, GSICA, www.gsica.net) equally interested to collaborate in the development of



a joint “ 2nd edition” of the students competition that also gave the availability to sponsor one award (500,00 Euro).

The main topic for the projects submission was thus declined also to the interests of the second sponsor as follows *“projects dealing with strategies and actions aimed to the enhancement of the shelf-life of foods. Welcome are project proposals dealing with formulation changes, innovative processing, biopreservation, use of innovative packaging, as well as innovations in distribution and logistics.”*

The ISEKI-Food Association agreed to co-sponsor the event for another award with a similar amount (500,00 Euros)

In collaboration with the project coordinator the webpage of the FoodFactory4Us competition was thus modified: one home page was created allowing then the possibility to select the edition of interest (<https://www.food-sta.eu/foodfactory-4-us-introduction>).

A new page for the 2nd edition that was initiated officially in December 2017, but developed in 2018, was thus implemented (<https://www.food-sta.eu/FoodFactory-4-Us-International-students-competition-game-edition2018>).

In this 2nd edition to improve the skills and competences of the students registered on the topics of the competition and on project management, three webinars will complement the offer given to the enrolled students focused on: project management, shelf-life and packaging. This additional activity comes also as answer to the comments received from the students participants of the 1st edition that were suggesting to organize specific training to allow them to improve their knowledge and skills and thus, better projects quality.

The dissemination of the new competition started just after the Rome meeting via the distribution list of the partners and the awards appointment was set end May-beginning of June 2018.

The second edition was planned by the ISEKI-Food Association in cooperation with GSICA (<http://gsica.net/en/>) according the following schedule:

- **15th December till 20th January:** registration of the teams
- **30th January:** acceptance of the teams and approval of the projects topics
- **1st May 2018: submission of the project report and presentation**
- **End May 2018 (date to be decided):** Final presentation of all the projects at the **FoodFactory-4-Us** Virtual workshop in presence of industry and multiplayer representatives and nomination of the **2 winning teams**

This 2nd edition will be focused on projects dealing with strategies and actions aimed to the enhancement of the shelf-life of foods. Proposals should deal with formulation changes, innovative processing, bio-preservation, use of innovative packaging, as well as innovations in distribution and logistics.

The call can be found in Annex I.

The following teams and topics have been registered so far:

2nd Edition FOODFactory-4-Us 2017-2018				
N	University	Country	Team name	Title
1	Federico II Napoli	IT	PizzaPie	<i>Exporting the real pizza all over the world</i>
2	Odessa National Academy of Food Technologies	UA	Fresh Wind of Food Changes from the Black Sea	<i>Application of barrier technologies in extending the shelf life of meat products</i>
3	University of Venda	ZA	Fat-caky	<i>Impact of of fibre incorporation and processing conditions on the development of a low-fat, high-fibre snack</i>
4	Odessa National Academy of Food Technologies	UA	Smart pastry	<i>Use of natural potential of non-typical species of wheat to extend the freshness of pastry.</i>
5	Odessa National Academy of Food Technologies	UA	HealthyCrunchies	<i>The natural ways of oxidative rancidity prevention in low-moisture content bakery products</i>
6	Dublin Institute of Technology	IE	FIPDes Boys	<i>Natural biopackaging with active natural food preserving components.</i>
7	Università degli Studi di Bari Aldo Moro	IT	FermenteDoc	<i>Set up of biotechnological protocols to reduce vegetable waste</i>
8	Cyprus University of Technology	CY	FOODCY	<i>Strengthening and promoting short food supply chains and local food systems.</i>
9	Warsaw University of Life Sciences	PL	PEFect food	<i>Electro shocking food preservation</i>
10	AgroParisTech	FR	FIPDesian	<i>An integrated approach of solving food expiration problem from a consumer-based perspective</i>
11	Federal University of Agriculture, Abeokuta	NG	MilletFoods	<i>Sourdough Technology: an approach for millet processing to enhance sustainable livelihood</i>



4.2 Joint academia-industry training course „New Product Design

After the first edition of this experimental course included in the study programme of the International Master degree programme in Food Science and Technology as optional course and that had a very positive feed-back from the students and the food company, the Faculty of Bioscience is planning to include it as regular course in this study programme. It will involve industry and professional representatives as teachers and a project of students teams that will be implemented in collaboration with one or more food companies.

Official application of the inclusion of this course in the study programme will be made to the national and official database in December 2018 according to national rules for bi-annual revision of the HE study programmes.

4.3 Students internship and exchange between academia and industry partners

The positive collaboration between the academic and industry partners allowed the implement new exchange of staff and students started within the project time but running beyond it.

In November 2017, one student from the University of Teramo was accepted by Frulact for an Erasmus+ traineeship student exchange to start in March 2018 (4 months).

4.4 Training the trainers” modules and courses

Organisational aspects hinder the development of the “Training the Trainers” module organized by the ISEKI-Food Association in collaboration with the FOOD-STA center that will be postponed in 2018.

The FOOD-STA center has also planned to take over beyond the end of the FOOD-STA project the organization of other professional and industry-oriented modules for teachers (e.g. Hand-on training in bakery technology).



5. Annex I: Call for the 2nd edition of the student's competition "FoodFactory-4-Us"



FoodFactory-4-Us_2017

2nd International students' competition game

Call for students' team registration from Universities

The improvement of practical knowledge and abilities in solving real processing- and food industry-related problems is essential for students in Food Science and Technology and Food-related studies to meet the current requirements of the professional skills by the job market.

The Erasmus+ European Food-STA project (www.food-sta.eu), in collaboration with the ISEKI-Food Association (www.iseki-food.net) and GSICA (<http://gsica.net/en/>) opens the call for the 2nd International Students competition game with teams from universities of European and non-European countries that will compete on finding the best solutions on one specific process – and/or food-industry- related problem.

This 2nd edition of the students' competition will be focused on projects dealing with strategies and actions aimed to the enhancement of the shelf-life of foods. We welcome project proposals dealing with formulation changes, innovative processing, bio-preservation, use of innovative packaging, as well as innovations in distribution and logistics.

We are looking for teams of students in Food study programmes that will develop a project-solution, by including the specific objective/target, the design and development of the solution exploitable at industry level and the main aim of contributing to the innovation of food processing as well as quality and safety of foods.

WHY:

- each team of students will work on a real food industry-based problem and thereby they will improve specific knowledge and competences
- students will also improve and enhance the cooperation between them and the awareness of the importance and benefits of team working in a competitive environment.
- The evaluation of the project will be carried out by food industry and/or food associations that in collaboration with academics will evaluate the projects based on the best professional abilities in problem-solving and team working
- Virtual environment for sharing knowledge and improvement of skills between students and teachers at European and international level.

WHO: the project is addressed to teams made of Master and PhD students in food science and technology and any other food-related study programme. An academic teacher/lecturer could/would be involved as tutor. See more details in the Instructions box.

AWARDS

Two awards are made available by the two sponsoring organisations for the best two projects/teams:

- Award of 500 Euro for the best project dealing with **innovative packaging, distribution and logistics** to improve shelf-life, sponsored by **GSICA**
- Award of 500 Euro for the best project dealing with **innovative process and formulation actions** to enhance shelf-life, sponsored by the **ISEKI-Food Association**

CERTIFICATIONS

- Each team and student: the "Certificate of participation" to the FoodFactory-4-Us competition game.
- The winner team: the "Winners certificate".

COMPLEMENTARY TRAINING

During the project life-time (Feb-April 2018), 3 webinars will be organized dedicated to the registered teams on the following topics

- Project management (presenter: under definition)
- Innovative and sustainable packaging (presenter: prof. Luciano Piergiovanni, University of Milan-GSICA, Italy)
- Process/product strategies to enhance food shelf-life (presenter, under definition)



DEADLINES:

- **15th December till 20th January:** registration of the teams (to Paola Pittia, ppittia@unite.it)
- **30th January:** acceptance of the teams and approval of the projects topics
- **1st May 2018: submission of the project report and presentation**
- **End May 2018 (date to be decided):** Final presentation of all the projects at the **FoodFactory-4-Us** Virtual workshop in presence of industry and multiplayer representatives and nomination of the **2 winning teams**

REGISTRATION:

On-line, <https://www.food-sta.eu/registration-foodfactory4us>.

At the registration, teams are required to include: name of the team, team coordinator and members, title of the project and main objectives (max 350 characters); tutor name (if any).

INSTRUCTIONS

Teams

Teams of students apply on voluntary basis; registration is free of charge. They could be made of 3-to-5 (min-to-max) students, preferentially Master students in Food Studies but for each team max 1 PhD student could be involved. Teams could belong also to universities of associate partners. One tutor (teacher, researcher, post-doc) could be involved (extra member) with the role to support and advise the team; but he/she cannot lead the team work.

Project topic

The teams are invited to present a project aimed to identify solutions, design and develop ideas, tools and actions aimed to solve a real industry-based issue and or an aspect/topic whose results may be of interest for the food industry and/or the food chain.

In this edition, teams and related projects have to be focused on strategies and actions aimed to the enhancement of the shelf-life of foods. Project proposals dealing with formulation changes, innovative processing, biopreservation, use of innovative packaging, as well as innovations in distribution and logistics will be accepted and evaluated.

All the registered teams will work independently on the development of the target issue.

The topic will not compulsory involve practical work in lab and should be focused on finding the best solution that could meet the food companies' expectations in terms of health and safety risks, improvement of economic value, quality enhancement of the products, sustainability.

A mid-term virtual meeting will be organised with tutors and teams coordinators as check-point and discussion on specific issues.

For the evaluation, the teams will submit by the fixed deadline a report of max 4 pages and a ppt presentation of max 20 slides. A form for the report will be made available to the registered teams. The ppt presentation will be also presented at the final **Virtual workshop "FoodFactory-4Us"**, an open event and internationally disseminated.

Reports and presentations have to be submitted to Paola Pittia, ppittia@unite.it

Scientific organizing team: Florence Dubois-Brissonnet (AGROPARISTECH-FR), Cristina L.M. Silva (Catholic Univ. Portugal-PT), Gerhard Schleinig (IFA-AT & BOKU-AT), Luciano Piergiovanni (GSICA & Univ. Milan-IT), Christophe Cottillon (ACTIA-FR), Paola Pittia (IFA-AT & Univ. Teramo-IT)

For more info about the competition game, contact: Paola Pittia (ppittia@unite.it)