

ISEKI E-NEWS ISSUE 33

March 2020



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NEWS FROM ISEKI-FOOD ASSOCIATION

ISEKI-Food 2020: POSTPONED to June 2021 due to COVID-19 crisis

by **Paola Pittia, Cristina Silva, Florence Dubois-Brissonnet, Gerhard Schleining & Dimitris Tsaltas,** Organising & Scientific Committee of the ISEKI-Food 2020 conference



6th International ISEKI-Food Conference

ISEKI-Food 2020

8 - 10 July 2020, **N**icosia, Cyprus

Sustainable Development Goals in Food Systems: challenges and opportunities for the future



After a very careful consideration of the international dimension and of all the issues connected with the Coronavirus outbreak, the Scientific and Organising Committee together with the Local Conference Organiser have decided to postpone the ISEKI-Food 2020 conference to 2021.

The new date of the conference has been scheduled for 23 - 25 June 2021.

The main concern of the organisers is the health of all people involved in the conference (e.g. organisers, sponsors, exhibitors) with main reference to the participants along with the need to comply with the rules and guidelines aimed to decrease the spreading of this new disease.

Additionally, many organisations (universities, research centres and organisations) all over the world have restricted their staff mobility for some months ahead, which might further hinder any interested people to attend the conference in July.

Should you have registered, submitted abstracts or already paid the registration fees, please visit the conference website where you will find all information about handling the necessary steps.

Should you have any questions, please contact the conference secretariat:

conference@iseki-food.net

The Organising & Scientific Committee of the ISEKI-Food 2020 Conference





Technical University of Valencia, Spain

by **Chelo Gonzáles Martínez**, Technical University of Valencia & ISEKI-Food Association member



The **Universitat Politècnica de València (UPV)** in Spain, is a public, dynamic and innovative institution dedicated to research and teaching. Its community is made up of around 34,000 students,

3,600 lecturers and researchers and 1,500 administration and services professionals distributed among its three campus in the Valencian Community. The UPV maintains strong ties with the social environment in which it carries out its activities, but at the same time advocates a strong collaboration and presence abroad. Nowadays, the UPV comprises 13 university centres and offers more than 100 bachelor and master's degrees related to engineering, architecture, agronomic, informatics and artistic areas. In addition, it has a Doctoral School and three affiliated centres (Florida University, Berklee College of Music and EDEM Business School).



Currently, the UPV is one of the top Food Technology Universities in the world (27th Shanghai Ranking's Global Ranking of Academic Subjects 2019).

Due to the relevance of the food sector in our country, in May 1999,

as part of the strategy to support R&D in the area of Food Science and Engineering, the UPV founded the Research Institute of Food Engineering for Development (IIAD).

The main objective of IIAD is research and transfer of technology aimed at the production of safe and high-quality food products, with a better use of natural resources and processes more efficient and respectful of the environment. The different research lines in the IIAD are devoted to the development of suitable technologies for the food industry to contribute to the improvement of health conditions, well-being and wealth creation. Some research lines are the following: valorisation of by-products by different process techniques, studies of digestibility of nutrients, encapsulation of bioactive compounds, development and characterization of active packaging materials for food preservation or formulation of healthier products among others.



The IIAD also has an intense training activity focused on providing technical personnel with the right skills and knowledge. We offer a specific training, in some cases unique in Spain, through our master and doctorate programs. At the same time, we promote collaboration with other national or international universities, institutions and companies.





More information on our website.



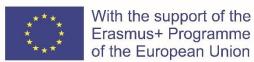


NEWS ABOUT PROJECTS with ISEKI-Food participation

SDGs Labs – Bringing sustainability to the Agribusiness and Food Production Sector by bringing Higher Education and Business Together

by **Line Friis Lindner** & **Foteini Chrysanthopoulou**, Project Managers, ISEKI-Food Association





ISEKI-Food Association is a partner in the Erasmus+ Knowledge Alliance project - **SDGs Labs** - which aims at building a culture of collaboration and knowledge exchange between business and higher education institutes with the goal of incorporating the SDGs holistically into modern business practices of the

agribusiness and food production sector.

The first tangible output of the project was the publication of the report "Common knowledge base and needs analysis" which outlines the opportunities aligned with the implementation of the SDGs in the agribusiness and food production sector based on the findings from 26 experts interviews and several focus group discussions carried out in Austria, Germany, Italy and Portugal with more than 30 participants.

The second output of the project was the publication of the report "Transformative Learning Environments, Methods and Tools for Implementing the SDGs in the Agribusiness and Food Production Sector". In this report more than 100 different innovative methods and tools were assessed and are presented as a manual that may help anyone to implement the SDGs in the daily life of the agribusiness and food production sector.

What are the next steps of the project? The project partners are already now starting the development of i) the so-called *SDGs Innovation Labs* which will offer multiple learning spaces for pioneer enterprises of the agribusiness and food production sector and ii) the *SDGs Co-learning Labs* which will develop collaborative environments for knowledge exchange and co-learning between HEIs, start-up hubs, companies and their innovation ecosystem and related stakeholders (such as customers, suppliers, intermediaries).

Find out more information on the <u>project's website</u>.

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.





NEXTFOOD case study – FoodFactory-4-Us International Student **Competition Game in Sustainable Cereals**

by Katherine Flynn, Project Manager, ISEKI-Food Association



The team "AMAMILLET" project, "Amamillet-A Healthy Snack to Achieve Sustainable Agriculture and Combat Double Burden Malnutrition" clinched the firstplace finish at the FoodFactory-4-Us Competition's Final Virtual Conference on 6 March 2020. Team members Elsa Kinanti, Maria Fransisca Njoman, and Ratchadetch Termpitipong of

AgroParisTech in France, guided by Faculty Advisor Véronique Bosc, gave the winning presentation which outlined the challenges of malnutrition and environmental damage and presented the solution and marketing of a tasty and nutritious amaranth-millet snack.

Fourteen teams from around the globe (51 students) participated in the 4-month online FoodFactory-4-Us competition addressing the use of ancient /alternative grains to improve sustainability in the cereal chain. Teams identified a specific problem, then designed and developed an industryexploitable solution. An Advisory Board of academic and industry experts evaluated the projects, including at the Final Conference where team members answered audience questions. All 12 teams that completed the competition had excellent projects and only a few points determined the winners.

Winners to present at the 7th Whole Grain Summit in November 2020

The three members of the winning team won a free conference registration for the 7th Whole Grain Summit in Rome in November 2020, sponsored by the International Association for Cereal Science and Technology (ICC) where they are guaranteed a presentation of their winning project. The Agricultural and Horticultural Development Board (ADHD) and ISEKI-Food Association sponsored cash prizes of €250 and €300, respectively.

This competition in Sustainable Cereals was the 2nd in a series organised by ISEKI-Food Association affiliate European FooD-STA. The next competition will likely be for agriculture students and will begin in autumn 2020. Competitions are an innovative as students gain in soft skills using action-oriented participatory learning while they also improve their technical skills in the competition topic. Visit the FoodFactory-4-Us Sustainable Supply Chain Competition site for more information. The competition is one of the case studies of the NextFOOD project in which ISEKI-Food is a partner. NextFOOD's core mission is to identify, describe and disseminate effective approaches to food production and forestry, subscribe to the NextFOOD newsletter here.





















NEWS ABOUT OTHER PROJECTS

NUTRIAGE – Promoting Healthy Ageing through Nutrition and the Atlantic Diet

by **Manuela Vaz Velho & Cristina Duarte,** Instituto Politécnico de Viana de Castelo (IPVC), Portugal & ISEKI-Food Association member





The <u>NUTRIAGE Project</u> was created by a consortium of nine partners, coordinated by Xunta de Galicia-Consellería de Política Social and funded by Interreg V-A España-Portugal (POCTEP) 2014-2020 through the European Regional Development Fund (FEDER).

The purpose of NUTRIAGE is to create advanced solutions to improve the quality of life of elderly people in the Galicia/Norte de Portugal Euroregion ensuring healthy aging through the evaluation, study and design of personalized nutritional strategies. The strategies are based on the traditional Atlantic diet and on the development of new food products that optimize the nutritional status of the elderly, thus preventing functional and cognitive decline. Generating R+D+i nutritional tools that favor the improvement of the elderly's quality of life, it will enhance the sustainability and efficiency of the socio-health system by encouraging growth and the creation of new business opportunities for the agri-food industry.

Results of the project:

1- Nutritional Status Assessment:

Knowledge of the pattern of food intake, eating habits and consumption preferences; Evaluation of the **Degree of adherence of the usual diet to the Atlantic Diet model**; Determination of the relationship between nutritional status, adherence to the Atlantic diet and neuro-cognitive function; Development of methodologies for the assessment of nutritional status, risk of malnutrition, metabolic status and neurocognitive ability.

1.1-Development of a Questionnaire of Atlantic Diet adherence (QADA)

IPVC was responsible for coordinating the development of a questionnaire of Atlantic Diet adherence. After a comparative analysis and discussion of traditional dietary specificities between Galicia and Northern Portugal, a 15-item AD adherence tool was developed based on the previously proposed SEAD adherence index (Andreia Oliveira et al., 2010).



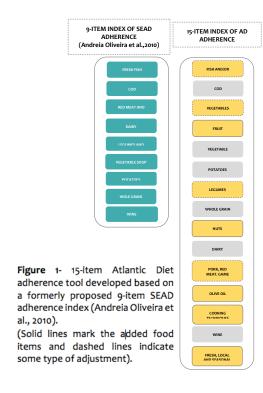


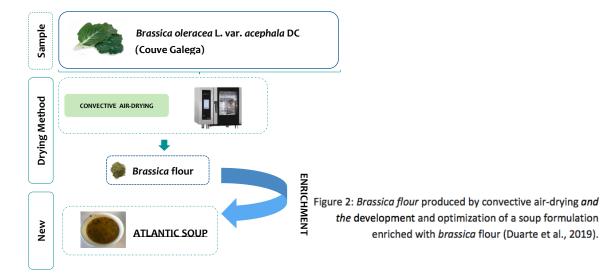
Table 1- Description of the 15-item Questionnaire of Atlantic Diet Adherence (QADA)

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2- Nutrition Intervention Strategies:

Optimizing existing products for elderly people according to the new nutritional guidelines identified; Establishment of procedures for the **design of prototypes of new adapted foods**; intervention strategies in nursing homes in order to correct deficiencies and imbalances.

2.1-Valorization and nutritional characterization of *Brassica* **flour and enrichment of food products** IPVC has developed and optimized the formulation of a soup based on traditional Atlantic diet ingredients through enrichment with *brassica* flour (*Brassica oleracea* L. var. *acephala* DC), protein hydrolysates (pea protein) and calcium (calcium lactate), with the possibility of health and nutrition claims according to regulation (EC) No 1924/2006.





3- Nutritional Interventions

Design of nutrition interventions to improve, functional and neurocognitive status of the elderly population; Knowledge of parameters and biomarkers necessary for the design of an adequate diet; Corroborate the relevance of the Atlantic Diet as a factor of nutritional improvement; Knowledge and validation of standards and optimal guidelines for developing nutritional interventions; Determination of the methodologies necessary to perform the nutritional intervention; Establishment of appropriate guidelines for nutritional interventions.

4- Impact and Socioeconomic Protection of Healthy Aging

Increased welfare of the elderly following changes in the implemented nutritional status control system and on the provision of food; The impact on the health and social costs of lack of control over nutritional status in nursing homes; The overall economic impact of the implemented nutritional status control on both raw materials and food and on the management of the food system; Information on distributive aspects of implemented measures.

References:

Duarte, C., Sousa, A.P., Rocha, S., Pinheiro, R. & Vaz-Velho, M. (2019). The Effect of Different Drying Processes on Physicochemical Characteristics and Antioxidant Activity of Brassica spp. Cultivars from Northern Atlantic. Chemical Engineering Transactions, 75, 421-426.

https://doi.org/10.3303/CET1975071

Oliveira A., Lopes C., Rodríguez-Artalejo F., Adherence to the Southern European Atlantic Diet and occurrence of nonfatal acute myocardial infarction, American Journal of Clinical Nutrition, 92:211e7, 2010.























PrO4Bake – An EIT Food Project on the optimization of bakery processes by a computational tool to minimize ecological footprint and food waste

European citizens consume around 47,5 kg of bread and baked goods per capita resulting in sales revenues of around 146 billion € and making bread and baked goods one of the most consumed food products in Europe. In most cases the production flow in bakeries combines various and time-consuming processing steps with a large variety of products. Bakeries typically produce large varieties of baked goods that each need various, individual and time-consuming steps. Dough production, kneading, baking and resting make efficient production scheduling a challenging task in which various parameters must be considered. In common SME bakeries, production planning is still based on the practical experience of the responsible employees due to the lack of existing alternatives. The sheer number and high complexity of possible product sequence combinations often leads to suboptimal performance and production planning, with direct consequences on the cost-efficiency ratio. A suboptimal production causes an increase in energy and resource consumption and therefore a larger carbon footprint, and higher production costs. The optimization of production process planning, including product range and amount adapted to consumer demand, is essential and helps small and medium sized bakeries to stay competitive.

The EIT Food project "PrO4Bake - Optimization of bakery processes by a computational tool together with consumer feedback to minimize ecological footprint and food waste" is developing a production planning tool for SME bakeries producing and selling bread, biscuits and cakes (warm confectionery). In the 2-year PrO4Bake project, initially funded by EIT Food, a no-wait permutation flow-shop model is established to process collected data and to simulate the bakeries' production process. The most efficient one is then determined by simulating different possible product sequences and applying an optimization algorithm. The model will enhance the sustainability and efficiency of bakeries with the help of powerful computers, digital twinning and development of optimization algorithms like ant colony algorithms. The optimization of the make span, idle time of machines, energy consumption, CO₂ emissions and/or efficiency, but also combinations thereof will lead to higher efficiency, and hence, lower production costs and a reduced carbon footprint. To adapt the optimization model to as many types of bakeries as possible, production and consumer data from partner countries all over Europe (Denmark, Germany, Italy, Poland, Spain and Sweden) are gathered and fed into the model. Consumer demands and expectations, their opinions and acceptance of possible changes in product availability will play a big role in the analysis and lead to a reduction of food waste by minimizing the overproduction of baked goods. Within PrO4Bake, the development of a data-based model providing demand forecast will be developed as an input to the optimization routine. The forecast model uses external factors, e.g. weather and calendars, and is trained with their historical data and with sales data.



In the end, an application with an intuitive user interface for SME bakeries will be developed, enabling bakeries to optimize their processes, resource consumption and ecological footprint.

Partners of the project are: The Aarhus University (DK), Siemens (DE), the University of Hohenheim (DE), the University of Turin (IT), Institute of Animal Reproduction and Food Research of Polish Academy of Sciences (PL), the Spanish National Research Council – CSIC (ES) and the Lund University (SE).

















iWATERMAP - Water technology Innovation Roadmaps

Ana Belen Morales, Food and Agriculture Cluster Foundation of de Murcia Region, Spain **Angel Martinez**, National Technological Centre for the Food and Canning Industry, CTC, Spain & ISEKI-member









World Water Day was celebrated last Sunday, March 22, in that framework, we inform again about the **iWATERMAP project** of the Interreg Europe programme, which focuses on supporting innovation policies in the water technology sector. More information https://www.interregeurope.eu/iwatermap/

An important proportion of water consumption is made in the production of food. In order to meet this demand, new ways of obtaining water are currently being researched, improving water efficiency, but also good practices that are based on training are essential, and policies often support them. Currently, policies boost private investment to achieve quality solutions. The Region of Murcia has a high number of SMEs and it is very difficult to access financing to achieve its technological development. For all this, the development of the iWATERMAP project is interesting. The Agrofood Cluster of the Region of Murcia (AGROFOOD Murcia), which has the collaboration of the National Technological Center of the Canning and Food of Murcia (also a great collaborator of ISEKI), is a partner in the project and it is working to promote the development of sustainable solutions for water technologies sector through 3 roadmaps. One roadmap of this project is about **Human Capital Development**.



In Spain, the Spanish Qualification Framework for Higher Education (MECES) is being implemented, from level 5 to level 8, which may be connected with innovation in University level and Non-University Higher Education, so that it is promoted the training of technical personnel specialized in the strategic sectors of the Region of Murcia, being able to relate to water technologies. In addition, all level students should have specific courses in Water Management and Development of Sustainable Technologies to maximize the efficiency of water resources in the Region of Murcia. In this case, from the different city councils of the Region of Murcia (and specifically from the municipal companies created for water management) many education and public awareness actions have been implemented with different initiatives for all ages both in use responsible, as in encouraging to consume tap water, for being the most ecological and controlled from the sanitary point of view.

Currently the project is in the phase of describing Action Plans to achieve implement its objectives. Actions must be done to guarantee the labor market for the human capital:

- Adaptation of the educational offer to the demands of companies by creating working groups between technicians from the public administration and the business sector.
- Help lines for hiring young researchers in companies and the development of R&D projects.
- Launching of intermediate and higher grade training cycles related to wastewater treatment and water management respectively and promoting its implementation in various centers in the Region of Murcia. In this way, professional training is expanded for specialized R&D&I.
- Implementation of professional English modules to facilitate the exchange of students
 of intermediate and higher level training cycles within the ERASMUS programme or
 others. These levels require an improvement in this competence due to the student's
 profile. With this, the aim is for future technicians to gain access to world markets
 without linguistic limitations and to attract technologies that facilitate business
 competitiveness in the Region of Murcia.

Finally, the next MFP offers the opportunity to locate SKILLS as a specific area of intervention for the ERDF. This would offer many opportunities for the development of human capital. AGROFOOD Murcia will work so that the regional management authority is informed about specific opportunities and wants to enable this option in the next ERDF operational programme and/or other relevant policy and programme document.





NEWS ABOUT EDUCATION & TRAINING

7th School on Pulsed Electric Field Applications, 7-11 September 2020, Zaragoza, Spain



7th School on Pulsed Electric Field Applications in Food and Biotechnology Zaragoza, Spain 7-11 September, 2020





Following the success of the previous Schools: Zaragoza (Spain), Salerno (Italy), Dublin (Ireland), Vienna (Austria), Osnabrück (Germany) and Casena (Italy), the 7th School on **PEF** applications in food and biotechnology that was scheduled from 25-29 May 2020 will be held on **September 7-11 of 2020** at the University of Zaragoza (Spain).

The aim of the course is to offer attendants (PhD students, early-stage researchers, and industrial users of the technology) an overview of knowledge and understanding of the basic principles involved in processing by pulsed electric fields and to provide practice in the use of these principles in the food and biotechnological industries.

Basic concepts that are required to understand electroporation and generation of pulsed electric fields from an electrical point of view, procedures to investigate electroporation, main effects of the treatments on microbial, plant and animal cells and the most recent applications of PEF in the food industry will be presented by experts in the field. Lectures will be complemented with laboratory practical sessions, pilot plant demonstrations and short presentations of activities conducted by participants

The course will offer a unique opportunity of promoting networking and communication between young scientists, experts and industrial partners interested in this attractive technology.

More information about the event and the application procedure can be found on the website.





JOB VACANCIES

NMBU Norway is looking for 3 Associate Professors in Food Science and Sustainable Food Processing

If you want more information or to apply for these jobs in **Food Science and Sustainable Food Processing**

Plant-based food, meat science, dairy science and technology.

then please visit this website.

For further information about job vacancies please visit the website of the

European FooD-Studies and Training Alliance

an associated site of the ISEKI-Food Association.

Click on the "Job Offer" button to get detailed information.





UPCOMING FOOD-RELATED EVENTS / WEBINARS

DUE TO THE COVID-19 CRISIS PLEASE CHECK THE RESPECTIVE CONFERENCE WEBSITES FOR POSSIBLE CANCELLATIONS OR POSTPONEMENTS

April 2020

3-5 April 2020

VBFOODNET 2020-Towards Innovation in Food, Nutrition and Public Health

More information: http://vbfoodnet.vnua.edu.vn/index.php?rub=congress20&pg=summary-20

Hue, Vietnam

15-17 April 2020

ICBC 2020 - 16th International ICC Cereal and Bread Congress

More information: http://icbc2020.icc.or.at/en/#

Christchurch, New Zealand

20-25 April 2020

PTEP 2020

More information: https://www.iseki-food.net/events/ptep-2020

Krupanj, Serbia

May 2020

4-6 May 2020

FoodBalt 2020 - Sustainable Food for conscious consumer

More information: https://tftak.eu/foodbalt/

Tallin, Estonia

NEW! 25-29 May 2020

7th PEF School on Pulsed Electric Field Application

More information: http://pefschool2020.electroporation.net/

Munich, Germany

NEW! 26-27 May 2020

Food Contamination and Traceability Summit

More information: https://contaminationsummit.com/

Munich, Germany

28-29 May 2020

2nd International Olive Center Conference

More information: https://www.medevents.gr/congress/olive2020?lang=2#/content-top

Thessaloniki, Greece



June 2020

NEW! 2-6 June 2020

Int. Conference Insects to Feed the World (IFW 2020)

More information: http://ifw2020.org/

Québec, Canada

NEW! 4-5 June 2020

7th International Food Safety Congress

More information: https://www.foodsafetycongress.org/

Istanbul, Turkey

16-19 June 2020

3rd International Conference on Food Bioactives & Health

More information: http://www.fbhc2020.com/?fbclid=IwAR2giw5ex5cxtDVMWfh-

7CbadgISG73IGr3cj0d1KsB9EIXEc65QDLrxsB0

Parma, Italy

August 2020

17-20 August 2020

20th IUFoST - Food for a changing world

More information: https://www.iufost2020.com/

Auckland, New Zealand

September 2020

NEW! 6-10 September 2020

FoodSIM 2020

More information: https://www.eurosis.org/conf/foodsim/2020/

Ghent, Belgium

NEW! 7-10 September 2020

Food Micro 2020 - Next Generation Challenges in Food Microbiology

More information: http://foodmicro2020.com/

Athens, Greece

NEW! 25-26 September 2020

2nd UNIFood International Conference – UNIFood2020

More information: http://unifood.rect.bg.ac.rs/index.php

Belgrade, Serbia

May 2021

NEW! 04-06 May 2021

7th International Conference on Food Digestion

More information: https://www.icfd2021.com/

Cork, Ireland



June 2021

23-25 June 2021

6th International ISEKI-Food conference

More information: http://iseki-food2020.isekiconferences.com/en/

Hotel Landmark, Nicosia, Cyprus

ISEKI-Food Association

c/o Department of Food Science and Technology Muthgasse 18, A-1190 Vienna, Austria Tel: +43-699-19247527, Fax: +43-1-9909903,

email: office@iseki-food.net
https://www.iseki-food.net/

registered under Austrian law ZVR: 541528038

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