EIT Food Call Projects 2018

EIT Food

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1.Education

1.1 Master Programmes

Food System Master of Science Program

In 2018, EIT Food will begin the initial phase of the development of EIT Food's flagship Food System Master Program, an integrated graduate degree program organized by 10 academic institutions and industrial partners from across EIT Foods pan-European partner network to prepare students to drive a future transformation of the food system and increase the competitiveness of their future employing companies. It promotes an integration of the food system by providing students with the opportunity to study consecutively at three institutions who provide distinctly different semester blocks focusing on different parts of the food system. This is coupled with a partner-mentored project/thesis work and non/academic activities offered by industrial partners.

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1.2 PhD Programmes

Global Food Venture Program

The Global Food Venture Program enables 30 highly qualified Ph.D. students from across Europe to turn their innovative ideas into successful business propositions. The program strives to raise awareness of the issues and challenges in the Agri-Food sector, cultivate an entrepreneurial mindset and educate in the area of entrepreneurship and business creation. Young innovators broaden their thinking and gain essential entrepreneurial skills & knowledge through an intensive program of seminars/workshops, one-to-one meetings with technology experts and corporate site visits. Finally, Ph.D. students profit greatly from a tailored mentorship program and have the unique chance to gain insight into key international entrepreneurship ecosystems and innovation cultures in Israel and the Silicon Valley.

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1.3 Professional Education

SME Workshop: Supporting SMEs for new business opportunities

The main objective of the SME workshop is a trend-driven innovation process around “sustainable food production”, to identify challenges and create solutions in an accelerate innovation process. The first step will be a “creative problem solving" process to identify SMEs challenges and needs related to “sustainable food production” in Europe. The second step will be to identify and study trends related with the challenge as growth opportunities, and apply this knowledge to create innovative solutions, discover niche markets, promote innovation ecosystems (networks) and improve competitiveness. In the final step “knowledge transfer”, 4 SME workshops will be held in Germany, Spain, Poland and UK. Educational talks will mix with creative activities that fix the objectives of the workshop: create new business opportunities to SMEs in the food sector in an inspiring, stimulating and accelerate way. Additionally, job brokerage for students will be also included.

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Drying and encapsulation of food ingredients in powder form

Drying of food materials is an essential process step, especially for sensitive or volatile components. A sustainable and low waste set-up is favoured by low aw storage forms. This goes hand in hand with an optimized drying process that poses as little as possible temperature and oxidation stress to the product. In addition, options are needed to reduce reactive degradation on storage. This SPOC should provide the details to allow a basic process and recipe design for such products. It is rather specific and should therefore give enough detail information to guide decisions for optimum production. The proposed SPOC has been designed to address the knowledge needs to improve the supply chain interactions and product design in the described area.

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Algal Biotechnology Techniques and opportunities for the sustainable bio economy

The aim of this professional development course is to provide introductory hands-on training and theory in algal biology, culturing, growth and subsequent molecular and metabolite analysis under laboratory and small scale pilot facilities. The workshop will run for two days initially at the University of Cambridge Algal Innovation Centre (AIC) followed by replicate courses at Iceland, Germany and Israel in 2018. The successful format includes a daily programme of lecture/seminars introducing the theory of techniques, SOPs best practice, and a demonstration of equipment, followed by a hands-on session in the afternoon. The programme will provide an unrivalled opportunity for postgraduate, post doctorate and industry researchers and entrepreneurs to be trained in algal biotechnology research and to understand the opportunities available for its incorporation in the sustainable food bioeconomy.

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Alternative Proteins To Design Products for Tomorrow's Consumer – Sources, Fractionation, Functionality, Nutritional and Consumer Aspects

The food sector is in need of formulating products that address tomorrow's consumer preferences and needs. An integral part of this is to use new protein sources as alternatives to animal-derived ones. Proteins are key functional food components. They provide not only structure, but are also essential in formulating wholesome and healthy diets. Making new proteins available from plants, microorganisms or insects will therefore be a key part of achieving EIT Food's strategic goals to contribute to solutions that can feed 10 billion people by 2050 and make the food system more sustainable. Forthcoming innovation proposals that focus on this topic will be in need of knowledge surrounding the issues of sourcing, fractionation or isolation, functionality, nutritional properties, consumer acceptance and application scenarios. This SPOC has been designed to address this by providing professionals and practitioners with fundamental and practical information on alternative proteins.

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Intellectual property management in the food sector

There is currently a shortage of qualified intellectual property managers and employees with knowledge and experience in this field in the food sector. This SPOC seeks to remedy this by reinforcing the quality of the European food industry workforce and overcoming the lack of knowledge and skills in IP management that are crucial to the food industry. This innovative SPOC will provide practical learning and innovative curricula to current and future food managers from start-ups and SMEs that should understand the value and importance of intellectual property management and actively incorporate such knowledge in strategic planning and decision making.

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1.4 MOOCs

Food for thought - the interaction between food and brain

This MOOC will explain and teach the relationship between food, mind and brain, focusing on the last link of the food chain: all of us, the consumers. Drawing from biology, psychology, neurosciences and nutritional sciences, we will discuss topics such as the psychological, unconscious and neurobiological factors underlying food choices and on the other side the effects of eating disorders, of some diets (i.e., high in fructose) and of bioactive compounds on the brain. Students will learn how seemingly different topics can be connected in a unified framework. Furthermore, they will learn science-based facts about the food they eat as well as tricks and strategies to improve their everyday behaviours regarding food intake.

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The 14-days Healthy Diet Course

Our aim is to produce a MOOC illustrating to the society the benefits of healthy diets. Starting with some general considerations about the benefits of a healthy diet, the health effects and the possible impact of foods on some acute and chronic diseases in the light of the recent scientific evidences will be described. The benefits and properties of certain food groups will be discussed, by taking into account the availability of these in the Northern, Central and Southern European countries. Two types of diet: the Mediterranean diet and the Baltic Sea diet will be analysed in detail. For each of them, the history, evolution, the recommended consumption frequencies, the characterizing foods, the sustainability and the health benefits will be discussed. The basics of a third diet, the Okinawa diet will be presented too, as an example of healthy Asian diet. Some typical foods of this diet and how to include them in a European food scheme, such as healthy Asian "contamination" will be de

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Trust in the Food we eat

The MOOC 'Trust in the Food we eat' will be developed and delivered by experts at the University of Reading (UK) with input from academics and researchers at The University of Turin (Italy) and the public education team at the European Food Information Council (Belgium). The short course will be freely available to everyone through the EIT-Food platform. It will deliver succinct, participatory, educational activities to inform and educate citizens about the food supply chain. There will also be an exploration of the regulations and safeguards currently in place to ensure the production of safe, high quality foods that meet ethical and environmental standards. Participants will be able to provide input on their trust issues around the food supply chain and engage to improve the situation. Participants will leave the course with an understanding of how responsible consumer choice can be an influential force for good.

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University of Reading

Fork2Farm: Sustainable agriculture in a changing environment

Global food supply chains are increasingly encountering considerable problems impacting on safety and sustainability affecting the food industry and reducing consumer trust. This MOOC will focus on threats to global food security & consider key challenges which need to be overcome in order to maintain healthy & sustainable food supplies for consumer wellbeing in both the developing and developed world. It will examine threats of an environmental, biological or chemical nature that can affect the one health approach to food systems with impacts to soil, plant, animal and human health. Emerging concerns of natural toxins, endocrine disruptors and nanoparticles that can bioaccumulate through the food chain are of heightened interest due to climate change and environmental pollution. The course will cover topics including: food integrity, soil & plant & animal health and climate change considering the ethical and bioethical constraints and will examine solutions to ensure food security.

Activity leader: Katrina Campbell
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Superfoods: myths and truths

This MOOC will explain and teach the science and the fact behind one of the hottest topics related to food, at least in the eye of the medias and general public: superfoods. Drawing from the fields of biology, cognitive sciences and nutritional sciences this MOOC will discuss superfood from multiple perspectives, including communication and marketing aspects , the real dietary value of, biological and metabolic aspects of superfoods consumption (positive and negative) and how regular foods are viewed in comparison to super foods. The course will give its viewers useful information and actionable advice and also aims to raise awareness about food trends and fads and, in general, food myths.

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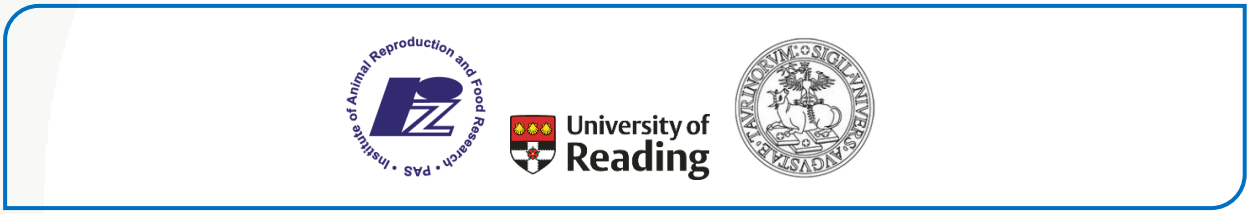

1.5 Multi-Level Programmes

FOODIO – Food Solutions Master Class

The FOODIO objective is to develop a multidisciplinary, challenge-based learning program for bachelor-, master- and doctoral students, young researchers, and professionals. The FOODIO will serve as a co-creation platform for sustainable, hands-on solutions to real-life product development challenges: use of plant-based side streams from juice manufacturing, sugar or pectin extraction, and olive oil manufacturing in dairy products (yogurt, cheese, ice cream), from technological, consumer, and health perspectives. Product formulation, marketing, consumer aspects, and business model development will be done in student teams. Around 40 students from five academic organizations, academic advisors, as well as mentors from three business partner organizations will form multidisciplinary, multi-stakeholder teams. The FOODIO will educate future professionals in an international and inspirational environment, connect business and academia, and stimulate new food solutions for future innovation.

Activity leader: Kirsi Mikkonen
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Building Student skills in micro-algae processing, component characterization and innovative product development

Rising global population leads to growing food shortage. Algae are a promising renewable source of nutrients, which is yet underutilized. This project will train graduate students in 3 leading Universities in methods for processing, fractionation and characterization of algal components, with emphasis on proteins. The students would then apply these knowledge and skills in tackling the challenge of developing innovative food products based on microalgae components, while working in teams under a competitive setup.

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Venture creation as part of food related trade and scientific events

Matis ohf, VTT in Finland and Judge Business School of the University of Cambridge will create and pilot test a venture creation workshop connected to Design March and Food and Fun events in March 2018. This workshop will offer participants the space to learn the art of creation by building and testing their own strategy instead of listening to theory as well as the opportunity to find others to launch a start up with. This model would be ideal for adaption to other future food trade and science events. The proposed action addresses the challenge of improving entrepreneurial culture, gaps in talents and skills of university graduates as well as well as insufficient adoption of emerging technologies. There is an opportunity to get more business, social or economic impact out of food related scientific events by linking them to "Venture Creation Workshops" where scientific knowledge can be deployed to develop innovative solutions to key problems.

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Summer School on "Entrepreneurship for food product innovation"

The consortium will implement a Summer School (SumS) on “Entrepreneurship for food product innovation”. Its ambition is to train groups of students from different backgrounds within the Food research area in creative thinking, innovation and entrepreneurship, with the final objective of translating research into real-world businesses. This activity will be based on the flipped classroom concept: the training will be delivered through a mix of online training sessions and in-class courses. The in-class activities will involve 4 food industries and will be set in a competitive environment to engage talented students. 4 prizes to best projects and individual impact on social media will be awarded. The long term main expected the impact of SumS is the creation of innovative products and companies in the food sector. The consortium plans to develop and implement a new comprehensive, tailor-made training content (online and in-class) every year until 2020 and then to offer cycles of training.

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Educating for Technology Take-off

New technologies and innovations offer significant opportunities to farm businesses to improve the efficiency and effectiveness of operations, enhance yields and outputs, as well as reducing environmental impacts. However, uptake of new technologies on farms is patchy. Here we propose educational technology adoption tools with the following objectives: 1, To deliver an innovative engagement framework that facilitates technology adoption on farms across Europe; e.g. to embrace the benefits of using enhanced animal genetics or to advance the use of precision machinery technologies in crop production2, To demonstrate increased outputs as well as improved environmental performance through technology uptake3, To ensure young farmers, businesses managers and advisors have the capability and foresight to engage with new technologies and can identify financial benefits that can accrue4, To develop Agricultural student ambassadors to work with farmers to increase technology adoption

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Circular Food Generator Track

Food Generator Track is a competition which challenges Master or PhD students of 3 Universities to develop new, innovative solutions for and from food losses of production facilities and retail activities. The proposed waste streams are bread, bananas and potatoes, which still have significant potential for use within the context of innovative food solutions. Multi-disciplinary teams of 6 students will tackle these problems. Each group will be challenged to create new business cases for each of the food waste streams, with high commercial potential. They will be supported throughout by experts from the food industry, retail and university who will act as advisors

to ensure valid and realistic “solutions” are developed. The teams have approximately 10 months to work on their cases. During this period there will be several intermediate meetings, workshops and evaluations with the groups. The Food Generator Track ends with a competition between the participating teams.

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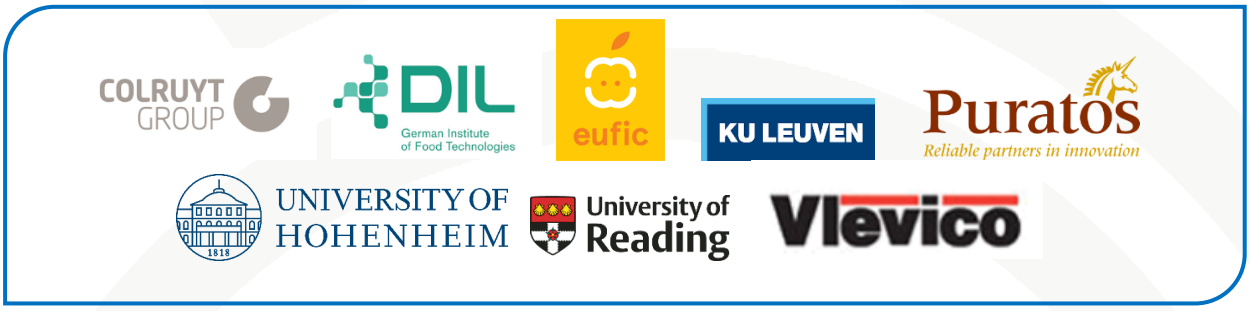

Tasty Macronutrients: How to best use novel plant protein – carbohydrate based ingredients in foods?

A new class of plant-based ingredients based on smart combinations of plant proteins and polysaccharides has been developed by the participating industrial and academic partners. These ingredients can be physically (coacervates), chemically (conjugates) or enzymatically formed. They could be ideally suited to support various product development platforms, such as e.g. the envisioned “MyYogurth” platform. While the ingredients are ready to be used, it is not yet clear, which ones are best suited to deliver desired taste and texture functionalities in a specific product category. This is a challenge ideally suited for a student team to develop concepts on how to optimize simultaneously texture and flavour to improve consumer choice and acceptability. The herein proposed team exercise will provide students with the opportunity to work collaboratively with industry and academic mentors in multidisciplinary teams. Mobility actions will allow students to build an early professional network.

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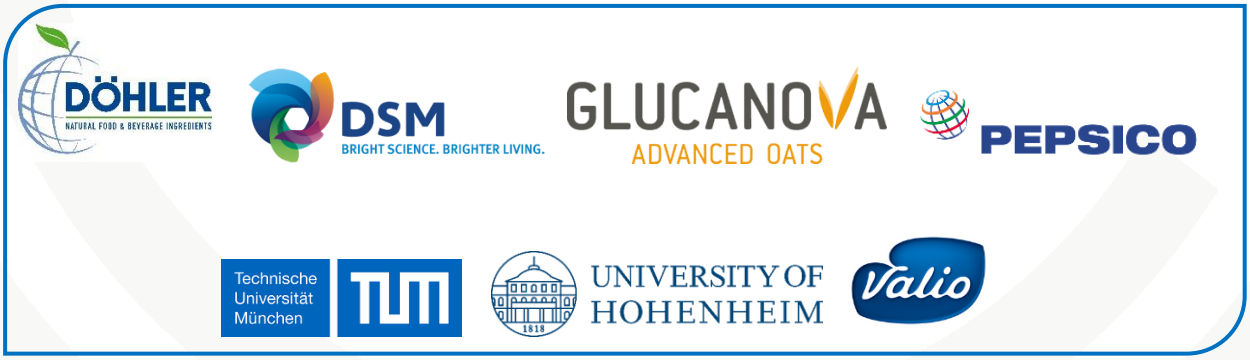

Summer school on new product development for the food industry

In today's food markets, New Product Development (NPD) projects are critical to the success and survival of organizations. This course is aimed at teaching the tools and techniques developed to support the NPD process, to gain insight from real NPD success and failure case studies from the food industry and to implement the tools, techniques and insights in a simulated environment. This course will focus on the tools, techniques and best practices developed to support the initiation, planning, execution, monitoring and control of projects aimed at development and marketing new products and services, as well as the process of introducing innovations to the market in the food industry.

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Digital Food Supply Chains - EIT Food Summer School 2018

This Summer School gives participants the chance to close the gap between Digital Technologies and Europe's food supply chain. Master students, PhD candidates, and professionals have the chance to take part in a 3 week workshop journey in the Summer of 2018. Queen's University Belfast, the Technical University of Munich and University of Cambridge will jointly educate at the intersection of Digital Technologies, Entrepreneurship & Innovation and Food Supply Chains & Sustainability. Participants will work together in teams that will be coached by representatives from notable industry partners during the workshop phase. In between the workshop weeks teams get support from successful founders of EIT Food's RisingFoodStars to put the final touches on the business models and their corresponding prototypes.

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2. Innovation

2.1 EIT Food Assistant

Better for the environment, better for my health

The starting point of this activity is the fact that there is a link between the environmental footprint and the nutritional quality of the dietary pattern of consumers. The objective of the 'Better for the environment, better for my health' solution is to raise the consumer's understanding of the impact of food production and consumption on the environmental footprint, give insights on impact reduction strategies and link this with nutritional values. To achieve this, we will develop software, as well a protocol on behavioural change strategies. The data platform and software will calculate the environmental footprint of agrifood product categories according to the European Commission's harmonised calculation methodology. To optimize behaviour, we will co-create and test with consumers behavioural techniques (e.g. nudges, practical solutions) that can drive them to shift to new behaviour patterns in the shopping environment and at home.

Activity leader: Veerle Poppe
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Quality Information Services and Dietary Advice for Personalized Nutrition in Europe

The Activity aims to deliver a digital platform as a supporting basis for creating and delivering personalised nutrition services in Europe based on a non-profit organisation with membership fees and payable query services to cover its operational costs. Services are designed for use by companies, societal organisations, government healthcare services and individual healthcare professionals desiring to organise and provide consumers with personalised nutrition advice. The work includes: (1) programming of a fully-fledged online digital service starting from a pre-beta version (Quisper Server Platform, QSP); (2) further development and integration of the eNutri App for personalized food recommendations (a test case); (3) the concept and set-up of the operational structure (data management, scientific advisory board, communication and marketing functions, Quisper management and governance structures); and (4) the active search for partners, suppliers and end-users to support and use QSP.

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SmartFoodLogging (SFL)

In the fight against chronic diet-related diseases it is the EU food and health system organization's aim to improve consumers' food literacy. Food literacy in a form of professional personalized advice is generally accepted to optimize consumers' dietary patterns. SFL will develop an online/mobile food diary which improves self-reporting and real-time coaching. The tool will allow to log and recognize foods by using artificial intelligence technologies (e.g. image & speech) combined with textual input, and include context (e.g. mood state). Based on the information log, the tool will determine the consumer's dietary pattern and food preferences. Dieticians can follow the actual consumer's behaviour in real life and tailor a more personalized nutrition plan, benefiting the consumer. Consumers can also receive automated real-time tips, empowering them to make better informed food choices. Therefore, SFL integrates personalized advice in the consumer's daily life.

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2.2 YourFork2Farm

Increasing nutritional value (bio-stimulated) of selected performant tomato varieties to be cultivated in areas with temperate climate

In temperate climate, the average yield/ha of tomato is significantly lower than international standards. The major objectives are to look for, evaluate and to select processing tomato cultivars best adapted to RIS northern countries. Multiple trials will be developed to study physiological and agronomical performance under a wide range of growing conditions, with an improved eco-footprint. To increase the nutritional value of processed tomato, new biostimulants which increase mineral bioavailability for humans, will be developed. Economic, social and environmental benefits:- Increase of competitiveness of tomato markets in EIT RIS (more efficient cultivars and cultivation methods)- Improved eco-footprint (lower use of pesticides, fertilizers, limited transport)- Higher nutritional value of tomatoes as a raw material for processing foods (increased bioavailability)Project is synergistic with the aims of KIC Climate area: "Climate-Smart Agriculture and Sustainable Food Chains"

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My Yogurt

Consumers appreciate yogurt as healthy product. While yogurt is an ancient food “invented” to increase stability and health benefits of milk, product innovations are on the horizon addressing the following consumer needs: 1) Improving sustainability: GHG emission saving by reducing milk use in new processes, repl. milk by plant proteins and lower eco-footprint of milk using novel feed ingredients. 2) Improving health & nutrition: new bio-ingredients promise fat and sugar reduction with winning taste experience; pro-and prebiotics promise health benefits by microbiome modulation. 3) Improving consumer trust: Involvement of consumers in product development, catering towards their preferences. The My Yogurt activity, with the connected "Digital Twin Management" and Food Solutions Program turns these promises into innov. products (incl. non-yogurt) produced at pilot scale, validated by consumer studies focusing on the specific needs of Millennials and our growing elderly population.

Activity leader: Oliver May
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SmartBreakfast: New Food Products for Innovative Home Appliances

Breakfast gives you a chance to start the day with a customized, tasty, healthy and nutritious meal, so you can perform better during the day. As suggested by nutritionist, breakfast may vary from stage in live, but in general, breakfast is essential to get the “first shoot” of energy for the day. The target group would be decided after the first consumer questionnaire (end of 2017), to choose the focus group based on real answers. As time is usually a limitation; a tasty, fresh, nutritious, convenient and quick breakfast gives the flexibility to support this important meal during the day. The combinations of smart appliances and healthy ingredients that enable the nutritious, quick and flexible breakfast would have an impact on consumer’s lifestyle. This activity aims to use smart appliances (flatev, Eskesso, Natural machines) to be used for the preparation of a customized fresh, tasty, nutritious, healthy (Puratos, Azti) breakfast in a convenient way.

Activity leader: Pamela Vazquez
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Dairy products with reduced saturated fatty acids

Saturated fat intake in most EU member states continues to exceed the dietary guidelines for reducing cardiovascular disease risk. Dairy products are the major contributor to dietary saturated fatty acids in many European diets but since these foods are also major contributors to the supply of key nutrients, and have other valuable functionality, reducing intake of dairy products would be counterproductive. Replacing traditional dairy products with saturated fatty acids reduced/monounsaturated fatty acids enriched dairy products would have a major effect of reducing dietary saturated fatty acids intake. Earlier research has established the process for producing this modified milk (e.g. Kliem et al. 2013, J Dairy Sci 96: 3211-21) with indications that the process leads to reduced methane production by the cow (Crompton et al. 2011 Adv Anim. Biosci 2:75) and hence milk with reduced carbon footprint. The project will start at TRL 5/6 and will progress to production of new retail foods.

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Optimizing rice processing & cooking to remove arsenic & starch from its life-cycle

Rice is a primary carbohydrate staple, but is high in carcinogen inorganic arsenic (Asi) & soluble starch, the former is a chronic carcinogen & the latter is a causative agent for obesity & diabetes in high rice consumers. The innovative objectives here using simple changes to grain industrial parboiling processing & domestic cooking to simultaneously remove Asi & soluble starch & to improve the health of the consumer, whilst ensuring that processing water waste produced is also low in Asi.

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ISP - Isolation and Application of Plant-based Ice Structuring Proteins in Frozen Foods

Temperature fluctuations during storage of frozen foods result in big chunks of ice causing major quality defects of the product. A controlled deceleration of recrystallization processes can be achieved by specific ice structuring proteins (ISP). So far, the only food-grade available ISP are based on animal or GMO sources. In this project, we focus on the upscaled isolation of ISP from plant materials and their application in ice cream and bakery products. Following objectives will be accomplished with combined capabilities from academia and industry: enhanced product quality and shelf life, reduced fractions of sugar and additives in ice-cream and valorization of so far unused plant sources. The outcome will contribute to a healthier nutrition and increased sustainability. The tasks

to be performed include plant cultivation under controlled climate conditions, scale-up of the isolation process, development of customized ISP compounds and their application in selected food products.

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SuReBiC: Sugar reduced biscuits and cakes that meet consumer sensory, naturalness and cost expectations

Reducing sugar consumption is essential for health but a huge challenge for the food industry. WHO recommendations are being enforced through government guidelines and taxes. Reducing sugar in food matrices is not just simply replacing sweetness, it has functional properties too which impact on the final product texture. Consumers want to reduce sugar, they are looking for clean labels they can trust, added value and an affordable price. This project creates a food solution system that will address these problems and deliver sugar reduced fortified foods. Looking at convenience and children, we will start with biscuits and cakes as the first two product categories. The project will leverage unique sugar-based technology from DouxMatok to reduce sugar, yet also deliver functional, nutritional and flavour benefits plus consumer value through the expertise of Givaudan, UoR, Puratos and Strauss.

Activity leader: Julia Rodriguez Garcia
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2.3 Web of Food

Food Fortress for raw materials and ingredients in Europe – Gaining Consumer trust through transparency of the supply chain

This projects aims at gaining consumer trust through improving the transparency of the supply chain using rapid-reactive and proactive risk management using a combination of technologies such as block chain, predictive analytics and multi-analytical tests.

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Advanced technologies for beef & Lamb Composition, Imaging & Sorting

The project will expand & adapt three dimensional medical scanning technologies to digitise the beef & lamb food chain into a NEW Connected Food System. It will enable accurate backward feedback to Producers to rear more economic & nutritious meat & forward feedback will enable new specifications to be produced that meets Consumer preferences & minimize resource wastage.

Activity leader: Declan mc donnell
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Digital Twin Management

A software solution for the management of digital twins for food products shall be developed. The software includes interfaces to factory automation systems for collecting production data. These data and additional data from e.g. a MES system are stored securely in a cloud using data structures appropriate for the corresponding food production. Any data analysis or monitoring functionality is realized by apps interfacing with the cloud. A novel feature of this solution is the integration of digital twin data along the value chain, a prerequisite for a Digital Food Passport and a Web of Food. The digital twin management software supports the user in setting up digital twins for his products and in granting his customers access to selected parts of the products' digital twin data as agreed in a bilateral contract or as requested by regulation. Sharing of digital twin data across different cloud platforms is supported by suitable data connectors.

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Separating MycOtoxin-contaminated Wheat grains using Precision Farming technologies

Mycotoxins can significantly reduce food quality, especially in wheat production. Fusarium graminearum and F. culmorum are the major origins of mycotoxin contamination. Producers, so far have no methodology to determine mycotoxin contamination of grains before harvest. Imaging sensor technologies including digital image analysis will be developed in this project to quantify Fusarium infestations in wheat fields shortly before harvest. Infestation rate will be correlated to mycotoxin contents in the grain. The camera will be carried on UAVs to create infestation maps. The output of the project is to generate georeferenced maps of contaminated (above threshold) and non-contaminated (below threshold) areas of wheat fields and use this information for intelligent

machine path planning and in field logistics with the aim to achieve site-specific harvesting of grains for food (non-contaminated areas) and bio-energy use (e.g. ethanol). Contractors will offer this service to wheat growers.

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Improving trust on fish chain: Rapid and portable monitoring tools for a better control of whitefish.

Fish is a healthy nutritional food. The increasing global market demand coupled with fish-food scandals, has generated a high level of safety concerns. This project provides three rapid, hand-held tools for enhancing the trust in fish products. The objective of this collaboration is to generate new real-time, reliable, portable and friendly-to-use monitoring devices that help to assess the freshness, nutritional value, identity of certain types of fish, and the use of antibiotics. Retailers and horeca sector will have a new set of tools to improving the transparency of quality and identity of fish products they sell so they can regain consumers' trust. Consumers will have a fast-non-destructive tool to measure the nutritional value, freshness and verify the identity of the fish they purchase. The project contributes to the mission of EIT/Food to give consumers access to safe and nutritious fish of the highest quality.

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2.4 Zero Waste Agenda

INNOPOULTRY. The poultry food chain: tackling old problems with innovative approaches

The aim of this project is to test and to promote solutions for the poultry industry in Italy, Poland and Spain in the area of safety risks for public health. Innovative ingredients (insects and fruit pomace) and new feeding strategies (probiotics) will be used to allow sustainable productions, to reduce pathogens and antibiotic resistance in the gastrointestinal tract resulting in an improvement of animal welfare and of the safety and the quality of poultry meat. Breeders and consumers will have a central role to define the applicability and the acceptability of such approaches, respectively. The project will improve innovativeness for multiple stakeholders through engagement in learning processes, participation in supply chains, and benefiting from diffusion of technologies and knowledge developed in this project.

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PROVE - Functionalisation and valorisation of PROteins of VEgetable sources

In 2012, FAO estimated that food production needs to increase with 60-70% to feed ±9.2 bio people by 2050. As the world's population continuously grows, achieving global food security (= producing sufficient nutritious food that everyone can access) and doing so sustainably, is one of the greatest challenges faced today. The growing demand for food cannot be covered only by increased production of existing sources. We will need to tap into new sources and valorise existing side-streams as food ingredients. A key challenge for future food security in EU is meeting demand for sustainable, domestic-grown, plant-based protein. This project aims at developing sustainable plant-based protein sources for innovative bakery (e.g. bread, fillings, etc.) and patisserie [e.g. (sponge) cakes, fillings, ..] applications. It addresses consumer demands in terms of health, nutritional, and sensory quality and brings a step-change to new product development with cleaner and more sustainable processes.

Activity leader: Bram Pareyt
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Interplay between different wheat cultivars and novel bio stimulants to increase quality and yield in different agroclimatic conditions

Improving European farmers´ competitiveness through technology transfer and innovation integration is essential to address future challenges in the sector. Increasing wheat grain quality and yield across Europe as the climate changes and enabling sustainable intensification is critical to a future Europe producing sufficient high-quality, affordable food. To do so, the following will be addressed: 1) identification of wheat cultivars with higher yield and quality traits in different locations in Europe; 2) validation of novel prototype biostimulants active under field conditions to support grain yield and quality; and 3) validation of a price-competitive prototype hand-held wheat grain quality analyser. These challenges will be delivered with a market-oriented approach by a multidisciplinary consortium from three CLCs involving: a large farmers´ cooperative (Grupo AN), a research centre (CSIB-IdAB), a university (University of Reading), and the RisingFoodStars (GrainSense).

Activity leader: Sara Esparza
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METAMORPHOSIS– enhanced insect protein for aquaculture

METAMORPHOSIS focuses on turning organic waste streams into a valuable, next generation aquaculture feed ingredient. The increased shortage of sustainable protein feeds has called for new approaches regarding the industry's growing need. Many insects are very efficient in transforming organic wastes into sustainable nutrients, rich in proteins and fats. Based on currently available waste streams, several thousand tonnes of insect meal could be produced at a favourable price and quality. More than half of all aquatic species are now produced by aquaculture and its production is likely to double in the next 15 years, and insect meal has been demonstrated to successfully provide nutrition to fish. This Activity will investigate a novel insect feed additive, which will provide an alternative to Europe's increasing reliance on soy and fish meal imports from South America, and thus help decrease the European protein deficit in a sustainable manner.

Activity leader: Birgir Smarason
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3. Business Creation

3.1 EIT Food Accelerator

EIT Food Accelerator Network FAN

The goal is to create a collaborative academic & corporate accelerator program across 4 innovation hubs to accelerate the business impact of food research and invention. EIT FAN (Food Accelerator Network) will operate in UK, CH, IL and DE. Application and selection are managed on the proven platform of MassChallenge (as already in UK, CH and IL). Structured 4 month programs with expert coaching from EIT partner companies, VCs, investors, experienced entrepreneurs and mentors, combined with expertise elements of all partner involved e.g. TUM, Strauss/The Kitchen, Technion, MassChallenge. Startups going through the selection process can compete for 3 EIT innovation grants of EUR 60k each. Graduates of the EIT FAN will become eligible to become members of the RisingFoodStars club and become part of the EIT ecosystem and contribute to EIT Food's innovation strategy. In 2018, the accelerator network will support 40 start-ups and the concept can be further scaled thereafter.

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3.2 Innovation Grants

Innovation Grants

Innovation Grants are granted to enable participants of certain EIT Food activities or programs to implement learnings or newly developed technologies / products from those activities into their business. They also support the development of new technologies or prototypes of products at an early stage.

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3.3 Access to Finance

EIT FoodSparks

EIT Food together with 11 other EIT Food partners will establish a fund called EIT FoodSparks (TM) to provide seed and early stage funding to start-ups in the European Agri-Food sector.

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4. Communication

4.1 Network

Don't be a food waster

The social awareness campaign ‘Don’t be a food waster’ wants to make all audiences proud to say ‘I am not a food waster’ with the ultimate goal of reducing food waste at all levels in the food system. We will target all actors in the supply chain, however particular attention will be focused on consumers, concerning the volume of food which is needlessly wasted. We will increase awareness of the role that consumers and supply chain actors can play in combatting the problem and encourage action to significantly reduce waste throughout the food supply chain.

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4.2 Explore

Games of Foods

The Games of Foods project seeks to increase knowledge, awareness, and behaviour of balanced nutrition and a healthy lifestyle through the design and application of escape games. It will deliver a conceptual model and practical examples of how to generate informative and exciting escape rooms on food quality, nutrition, and health. It will engage people of all ages and nationalities in solving food-related puzzles and riddles while learning about innovations that underpin a healthy and balanced diet. As escape games are a growing trend, taking an estimated 10m euros in revenues every year, outcomes will provide numerous organizations worldwide an operative and effective methodology for developing local state-of-the-art rooms. Games of Foods will provide a platform for conveying educational, social, and environmental messages, playing a central role in educating on smart food choices and fighting obesity and other food-related diseases.

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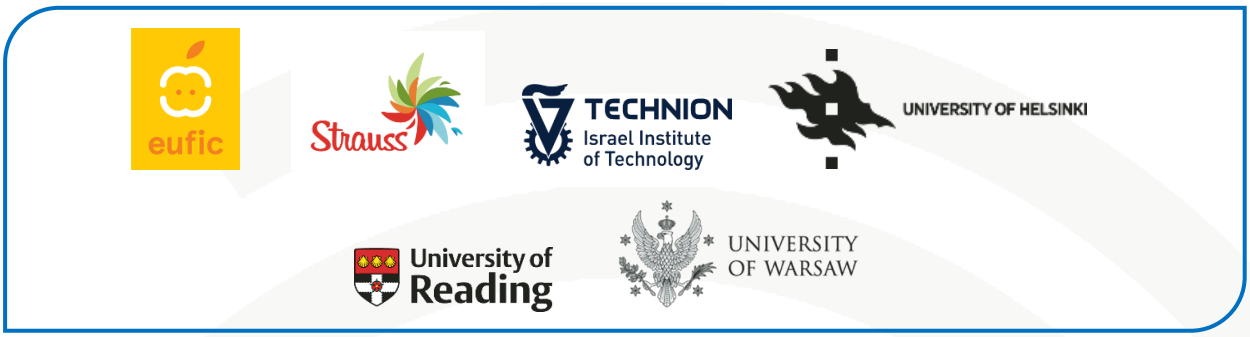

The EIT Food School Network: Integrating solutions to improve eating habits and reduce food wastage in preschool and schoolchildren

This activity aims to develop a network that links EIT food with existing national schools programs in Europe and related stakeholders, ultimately to promote the exchange of ideas and information, ensuring effective translation of findings. The first year activity will develop a portfolio of approaches that could be used within pre-schools and schools to improve eating habits and reduce food wastage, accompanied by network development and establishment of effective communication channels. These activities include: exploring approaches to positively influence food choice using a knowledge co-creation approach, studying the healthy food concept, the nutritional understanding and hedonic perception of school meals and developing and piloting a new innovative tool focusing on children`s health behaviour and stress response regulation.

Activity leader: Begoña Alfaro
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Influencer marketing for EIT Food: the EIT Food Ambassadors Programme

Launching more sustainable products or technologies does not necessarily create new consumer eating habits. How do we let consumers use an app to avoid food waste, try 3D food printing or eat a new healthy insect-snack? How can we evoke a real 'cultural shift' in behaviour? To create real impact EIF Food needs support from a network of EIT Food Ambassadors. These are the trendsetters who can raise actual awareness and have a sway over consumers in their network. With a bottom-up approach this project aims to: (1) map European influencers which align with EIT Food consortium structures/goals; (2) set up a network of food ambassadors/influencers across regions and the value chain; (3) identify and define the most effective ways to engage the ambassadors to reach consumers (incentives to engage; (4) create events to engage influencers to commit to promoting EIT Food purpose and goals by becoming long term EIT Food Ambassadors

Activity leader: Sofia Kuhn
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Cultivating Engagement: a citizen participation forum on vertical farming

This project puts citizens at the centre of shaping high-tech innovations in food production to become healthier and more sustainable. The project will develop a Citizen Participation Forum (CPF) assessing the potential of (indoor) vertical farming (VF) technologies to address some of the major challenges our food systems face. Mixing state-of-the-art participation methods including online issue mapping, face-to-face dialogue and hands-on 'makeathons', the CPF will trial a range of pilot projects aimed at gaining consumer insight and stimulating broad public debate on VF. Taking a research-driven approach, results will both be analyzed in regards to best-worst practices and offer critical reflections on public participation schemes, assessing the possibility for scaling and broad deployment by EIT food. The pilot projects stimulate future collaborations between researchers and the high-tech (food) industry in exchange with wider publics (including in RIS countries).

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5. Regional Innovation Scheme

EIT Food RIS Innovation Grants

EIT Food Regional Innovation Scheme (RIS) encompasses a portfolio of instruments, aiming to engage organisations and individuals from EIT RIS countries in KIC activities and promote international networking in agri-food. EIT Food RIS Innovation Grants are business creation activities for EIT RIS beneficiaries, including Innovation Scouting (search and mentoring of entrepreneurial talents) and RIS Innovation Grants (awarded in an open competition to entrepreneurs from 13 targeted EIT RIS countries). The activity implements the "EIT Food RIS Strategy, 2018-2020".

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Co-location-centre (CLC) North-East + CLC South

EIT Food RIS Fellowships

Project enhances the innovativeness of personnel and responds to identified challenges of the agri-food industry. Talents from higher education from EIT RIS countries will get insights into different areas of corporate operations to become food sectors' employees or entrepreneurs. Candidates will participate in workshops through EIT Hubs and 30 best performing candidates will be offered 3 months internships at EIT Food consortium partner organisations. The internships will apply work-based learning and focus on solving real work challenges. They will engage young passionate workforce that upon the return to their home countries will spur a wave of entrepreneurial innovations.

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EIT Food Regional Innovation Scheme (RIS)

EIT Food Regional Innovation Scheme (RIS) encompasses a portfolio of instruments, aiming to engage organisations and individuals from EIT RIS countries in KIC activities and promote international networking in agri-food. It includes a network of EIT Hubs, organization of Demo Days for entrepreneurs, Executive Academy for government authorities and stakeholder outreach activities in EIT RIS countries. The activity implements the "EIT Food RIS Strategy, 2018-2020".

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EIT Food

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