ICT-AGRI-FOOD 2019 Cofunded Call Newsletter December 2022

Best wishes for a joyful holiday season

Dear ICT-AGRI-FOOD community,

With the December newsletter, we wish you a merry Christmas and that you enjoy the holidays with family and friends and come well into the New Year! We thank you for the exciting discussions at our events and your loyal interest in our project.

Currently, ICT-AGRI-FOOD is evaluating the 2022 joint call on more transparent agri-food systems for consumers and other stakeholders along the food value chain based on ICT technologies. The 2022 Joint Call for research proposals was closed on 26 September 2022. A total number of 17 proposals have been submitted.

In this newsletter, you can find information on the latest developments and achievements from all projects of the 2019 Cofunded call.

Stay with us and let's work side by side for the use of modern technologies for a more sustainable food system. Over Christmas, there is however hopefully time to relax a moment. All the best, stay safe and sound.

Yours sincerely,

Johannes Pfeifer - Member of ICT-AGRI-FOOD's Coordination Team

---

Mid-term research project seminar

From the 28 until the 30 September 2022 the cofund mid-term Research Seminar was held in Aachen (DE) at the Technologiezentrum (TZA). The seminar was hosted by ICT-AGRI-FOOD consortium partner Projektträger Jülich. About 50 participants, mainly partners of the funded projects and funding agencies, came from all over Europe to take part in this event and a number of participants followed this event online.

The 19 cofunded projects presented an interim poster of their project to give participants insights into the preliminary results, potential impact and future research activities. New acquaintances, possible collaborations and connections were established.

The event highlighted the successful collaboration among the ICT-AGRI-FOOD funders, stakeholders, research partners, representatives of the EC, experts and external partners.

Read more

SPECTROFOOD - Democratizing spectral imaging in agrifood

Development and testing of spectral imaging and artificial intelligence solutions towards food loss reduction and a more sustainable agriculture from field to storage.

Two challenges modern agriculture and society face are food insecurity and loss

The global population is rising, and modern agriculture has to keep up with the increased demands while reducing its environmental footprint. Optimizing resource use and reducing discarded products could help towards that goal. SPECTROFOOD aspires to develop solutions across the agrifood value chain from pre-harvest and field level to postharvest and storage. At the core of the solutions are, Spectral imaging and Artificial intelligence, as they can offer a non-destructive quality estimation of fruits and vegetables, eliminating food loss due to random sampling while at the same time allowing for personalized treatments per fruit and vegetable, optimizing the use of resources and product handling.

SoCoRisk - Farmers' and contractors' opinions on a decision support tool for prevention of soil compaction

A decision support tool for prevention of soil compaction, recognized as a major soil threat in Europe, called Terranimo® can become a part of farmers' strategic planning. The aim of the SoCoRisk project is to investigate barriers and opportunities to include prevention of soil compaction in farmers and contractors when planning agricultural operations, purchasing new machinery, or negotiating new contracts.

How does Terranimo® work?

Terranimo® is a model for prediction of the risk of soil compaction due to agricultural field traffic. A combination of soil maps, weather information, and machinery can give farmers know-how about the risk of soil compaction. If the risk is high, the farmer can choose different tires, and reduce inflation pressure or wheel load to decrease the risk. Terranimo® enables farmers, advisers, students and scientists to use complex knowledge, that would otherwise be difficult to intertwine. "The ambition is to improve farmers' planning of field operations, including hiring of contractors with their respective machinery, and further, to enable strategic planning of investments in new machinery and adjustments to crop rotations based on identification of critical field operations," SoCoRisk Project Leader Mathieu Lamandé says. He is a Senior Researcher at the Department of Agroecology at Aarhus University and represents one of the five participating countries.

[Read more](#)

POSHMyCo - Detection and mapping of Fusarium head blight in wheat and barley fields

The detection and mapping of Fusarium head blight (FHB) in wheat and barley is the backbone task to be delivered under POSHMyCo ICT-AGRI-FOOD Project, which aims at establishing a novel solution to reduce the risk of mycotoxin [e.g., Deoxynivalenol (DON)] contamination in grains by adopting smart farming technologies. One of the challenges of the project is developing an on-line (tractor mounted) system for the detection of the spatial distribution of FHB at the field level, which will be utilised for successful separation of grain into different DON contamination classes. Therefore, POSHMyCo project has developed and successfully implemented an on-line measurement system of FHB, which was used to scan several commercial fields in Lithuania and Belgium. The system consists of a Specim FX 10 hyperspectral camera (Specim, Finland), with a wavelength range of 400–1000 nm, a thermal camera (FLIR A655sc, USA), and a differential global positioning system (DGPS) (version CFX-750, Trimble, USA). The camera was positioned at a height of 75 cm above crop canopy using a custom-built metal frame attached to a tractor as depicted in Figure 1. A representative number of ground-truth points (approximately 25 per field, depending on the field size) was randomly selected in the field to evaluate the percentage coverage of FHB. Two techniques were utilized at the ground-truth locations to assess the presence of FHB: a visual inspection of the number of infected ears in a 1 m2 area, and RGB images assessment for the same evaluated spot.

Read more

HALY.ID - A Drone-based Application for Scouting Halyomorpha halys Bugs in Orchards

In the frame of HALY.ID project, the present study aims at investigating the potential of near-infrared spectral cameras for monitoring the presence of the brown marmorated stink bug (*Halyomorpha halys*) in crop fields. HALY.ID uses IoT sensors to monitor the temperature, humidity, and brightness on trees and analyze RGB and multispectral images.

Read more

LivestockSence - Focus groups to shed light on adaptation of digital technologies in livestock production

In the coming weeks, the ICT-AGRI-FOOD-funded project LivestockSense is to host focus group discussions in Hungary, Estonia, Poland, Sweden, Israel, and Denmark. The aim of the focus group discussion is to identify key characteristics of farmers' attitudes toward digital technologies. All participants are carefully selected for their specific expertise and cover the entire value chain from primary production to market. In each country the representatives will be poultry- and pig farmers, technology providers, researchers, NGO´s and decision-makers. The outcome of the expert meetings will subsequently be analyzed and presented in a European context.

Read more

Plan P - Process and mixture variables impact the textural acceptability of vegan mayonnaises more than the plant-based protein ingredient used

The acceptability of matrices has been determined by a Physico-chemical characterization dataset clustering. Each ingredient selected allowed production of at least one acceptable experimental matrix, independently from process and mixture variables.

Food emulsions are ubiquitous in the food sector

Their appearance, texture and mouthfeel are crucial aspects of the consumer appetite and critical for acceptability. In recent years, food manufacturers have reacted to growing flexitarian and vegetarian trends. Until now, a systematic approach to achieve desired textural effects in emulsion is missing and development step is still an empirical approach. The PLAN P project aims to accelerate the design of new products by diversifying the nature of the proteins, with the support of spectral analysis coupled with artificial intelligence algorithms to predict variables related to the texture of products.

Read more

Website Launch Announcement

Learn about the new Green Era Hub (GEH) network within the Horizon Europe framework, that started in September 2022. GEH represents 15 currently active EU ERA-Net Co-Funds and stand-alone initiatives, including ICT-AGRI-FOOD, in the field of Agri-Food and Biotechnology.

The GEH will provide clear perspectives for ERA-Nets, ERA-Net Cofunds, national research funders and researchers in the Agri-food and biotechnology sector to find dedicated support at the level of information, communication, cooperation, networking and joint transnational funding that best fits their needs. The GEH will contribute to maintaining and strengthening Europe's highly competitive position in agri-food and biotechnology research.

The GEH website provides you with an easy way to learn about the Green ERA-Hub and to browse information based on your own choice. The new website gives better access to About us, Events, as well as the EU ERA-Nets, EJP and self-sustained networks involved and many more.

You can learn about the events and latest news by subscribing to the Green Era Hub newsletters and news alerts.

Go to Green ERA-Hub website

Save the date - Space solutions for sustainable agriculture

ESA with the support of DLR and BLE - the German Federal Office for Agriculture and Food, is pleased to invite you to this event which will bring together private and public representatives of the space and agri-food sector. The event aims to achieve a common understanding of key challenges and to instigate dialogue among stakeholders in order to draw up a shared roadmap.

The event will feature panel discussions and talks highlighting experiences and success stories from existing initiatives within ESA, BLE and DLR. The presentations will showcase how the use of terrestrial technologies, space data and space connectivity can deliver knowledge and enable sustainable services to support the green transition and ensure food security.

More information

This newsletter will be sent regularly (at least twice per year). It is sent automatically to everyone who has registered for the newsletter under http://www.ict-agri.eu/ or on www.ictagrifood.eu.