

# INTERNATIONAL BROKERAGE EVENT



## BOOKLET OF PITCH DESCRIPTIONS

13th February 2025

Hotel Four Points by Sheraton Ljubljana Mons, Slovenia



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# 1. Artificial Cu(II) Hydrogels: Advanced (Bio)catalysis and Sensing

**Asst. Prof. Rok Ambrožič**

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**Proposed project summary:** We are developing innovative, mechanically resilient, and porous hydrogels with enhanced electrical conductivity. Such features enable the design of advanced (bio)catalysts, (bio)sensors, and next-generation energy storage systems. These advanced hydrogels are formed through tailored electrodeposition and crosslinking processes that provide a balance of high strength, flexibility and efficient ionic conductivity. The porous structure promotes rapid ion transport, while the mechanical durability ensures long-term operational stability under various stress conditions.

**Programmes or calls of interest:** This project aligns with Horizon Europe's calls on advanced (smart) materials, biocatalysis, and sustainable energy technologies.

**Potential role in consortium:** Our team will lead the development by focusing on the design, synthesis and integration of these hydrogels into microfluidic flow systems, optimizing them for high-performance

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# 2. Eco-friendly Delivery Systems for Fertilizers

**Asst. Prof. Ardhaoui Kaouther**

Higher Institute of Applied Biology of Medenine, University of Gabes, Tunisia

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**Proposed project summary:** Our project is about synthesizing smart fertilizers using industrial conventional fertilizers and agrifood-waste, which guarantees the delivery of nutrients to plants in a reasonable rate and respects the environment in the same time.

**Programmes or calls of interest:** HORIZON-CL5-2024-D3-02-03; HORIZON-CL6-2025-01-ZERO POLLUTION-08; HORIZON-CL6-2025-02-CLIMATE-06 Water4All; HORIZON-CL6-2025-01-CIRC BIO-08

**Potential role in consortium:** Partner

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### 3. Animal Models in Translational Studies of Metabolic Syndrome

**Asst. Prof. Nina Batorek Lukač and Prof. Milka Vrecl Fazarinc**

Veterinary Faculty, University of Ljubljana, Slovenia

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**Proposed project summary:** Nutritional studies in animals, for example physiological effects of novel foods and effects of nutritional challenges (e.g. unbalanced diets, low protein diets, high fibre diets), could be used as a model for translational research. Particularly, pigs have been suggested as a suitable animal model for translational research due to similarities in feeding patterns, digestive physiology, and dietary habits with those of humans and could be used for the study of human obesity and metabolic syndrome. Studies could be performed simultaneously with nutritional studies aiming to replace energy (e.g. cereals) or protein (e.g. soia free diets, insects as a source of protein) sources.

**Programmes or calls of interest:** collaborative research projects funded by ARIS (WEAVE initiative) or EU project

**Potential role in consortium:** Partner, WP leader

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### 4. Role of Forest Microbiome in Forest Production and Biosafety

**Asst. Prof. Lorenzo Brusetti**

Faculty of Agricultural, Environmental and Food Sciences, Free University of Bolzano/Bozen, Italy

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**Proposed project summary:** Forest microbiomes have been deeply studied only in few ecosystems, mostly related to Central Europe. In a changing world, with increases of temperature, novel pollutants, and modified water regimes, the consequences on microbial services are still mostly unexplored. These span from modified phytopathogenic microbiota composition, GHG production or consumption, changing in N-fixation patterns, dissemination of viral information, modification and dissemination of resistomes in water basins, or modified symbiotic patterns, and so on. This could be an important topic rarely inserted into EU projects related to forest productivity, forest monitoring, mountain freshwater management, including irrigation and drinking water services. The ultimate consequences on the local and global economy of the microbiota activities are not explored.

**Programmes or calls of interest and potential role in consortium:** As such my research group, specialized in environmental microbiomes, is strongly interested in coordinating a WP within HORIZON EU projects related to Climate, Biodiversity or similar.

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## 5. Electrochemistry at the Service of Biotechnology

### Dr. Felipe Conzuelo

Bioelectrochemistry and Electrobiotechnology Lab, ITQB Nova University Lisbon, Portugal

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**Proposed project summary:** Biocatalysts, such as enzymes and microbial cells, can be applied in electrochemical systems to address renewable energy generation and waste conversion. Different biocatalysts have already been introduced in biotechnological applications, providing significant advantages in terms of high activity, specific chemical conversions, efficient reactions, and the possibility to operate in aqueous solutions under ambient conditions. All this, being constituted entirely from earth-abundant elements. The project aims to implement new strategies for energy conversion and the synthesis of value-added chemicals based on the use of efficient and low-cost bioelectrocatalytic systems, feeding the biological catalysts with renewable energy. For this purpose, we will integrate redox-active catalysts with dedicated electrode materials establishing functional bioelectrocatalytic conversion systems.

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## 6. Electrospun Nanohybrid Biopolymers for Smart Edible Coating (ENBOSEC)

### Prof. Carmelo Corsaro

Department of Mathematical and Computer Sciences, Physical Sciences, and Earth Sciences (MIFT), University of Messina, Italy

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**Proposed project summary:** ENBOSEC aims to perform micrometric laser writing on a gelatin-based electrospun biopolymer for food packaging. Laser micromachining will allow a QR-code with all the food information to be printed directly on the electrospun edible textile added with curcumin and nanostructured metal oxides (as an active antioxidants releaser) to pursue the following goals: i) improving the food shelf-life; ii) avoiding waste production; iii) releasing active substances over time; iv) tuning the biopolymer wettability; v) monitoring the food status for signalling pH thresholds.

**Programmes or calls of interest:** Horizon Europe or other

**Potential role in consortium:** UniME will perform: 1) basic synthesis and biopolymer electrospinning; 2) physical characterization by XPS for surface chemical analysis, SEM-EDX for compositional and morphological details, Raman/FTIR for structural properties analyses, Contact Angle for wettability evaluation and DSC for thermodynamic properties (e.g., glass transition and melting temperatures); 3) QR-code laser writing.

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## 7. Digital Food Production: Overcoming Challenges of Fiction in Reality

**Asst. Prof. Rozalija Cvejić**

Biotechnical faculty, University of Ljubljana, Slovenia

E-mail address: [Rozalija.cvejic@bf.uni-lj.si](mailto:Rozalija.cvejic@bf.uni-lj.si)

**Proposed project summary:** Globally, food production systems face pressing environmental challenges. Agriculture is one of the largest water consumers. Digital water use for food production integrates advanced AI and IoT technologies to optimize water, nutrient, and energy use. Despite its promising applications, scalability, cost, and knowledge constraints hinder widespread adoption. Recent innovations in smart irrigation have begun to bridge the gap between theoretical solutions and real-world applications. However, the challenge is that readily available solutions such as point soil-moisture sensors are hardly applicable and costly, especially on family farms that are globally the cornerstones of thriving rural life and agroecosystems. The proposed project joins research efforts and engages communities in co-developing comprehensive soil-moisture observation networks to achieve meaningful digitalization of family farms to reduce water, nutrients, and energy consumption.

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## 8. Disturbance-based Management of Forest for Increased Resilience and Adaptation

**Dr. Didzis Elferts**

Latvian State Forest Research Institute »Silava«, Latvia

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**Proposed project summary:** a) Long-term effect of stand disturbances shaping the landscape: effect on the adaptation, mitigation. b) Increased share of broadleaves via assisted migration, promotion of noble species: description of biodiversity (e.g. soil, pollinators, birds) and ecosystem services. c) The most likely climate-change resilient mixture in a particular forest zone – resistance, resilience, and recovery of single- and double-layer stands. d) Climate-smart forestry living lab - the infrastructure for concurrent assessment of soil, tree and landscape parameters. e) Climate change and adaptation benefits of single-tree and group selective management in broadleaved stands. f) Peri-urban forest management – destructive and non-destructive assessment of tree wind stability and development of innovative green infrastructure.

**Programmes or calls of interest:** Horizon Europe, Cluster 6, Horizon-Widera.

**Potential role in consortium:** Partner

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## 9. (Freshwater) Biodiversity is Important

**Asst. Prof. Tina Eleršek**

National Institute of Biology, Slovenia

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**Proposed project summary:** Our expertise is linked with safeguarding a clean water environment for the healthy life of humans and ecosystems. Are you thinking »green«? Have you developed new activity, procedures, settings or new products that are good for the environment and more healthy life? We can define and implement monitoring, and assess the impact of your new activity on biodiversity in freshwaters, starting at the bottom of trophic pyramids in the freshwaters - algae and cyanobacteria. Did you know that some cyanobacteria can be very toxic? More at [www.ciano.si](http://www.ciano.si)

**Programmes or calls of interest:** HE, Interreg, Biodiversa +, Citizen science funding schemes ...

**Potential role in consortium:** Our working group has many experiences in the field, the lab and with working with different users, partners, stakeholders and clients. We can act as a reliable project partner or as a coordinator (so far for projects up to 3M€).

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## 10. Leveraging Underexplored Alternative Proteins as a Pathway Toward Creation of Healthy and Sustainable Food Systems (UPSTREAM)

**Dr. Luziana Hoxha**

Department of Agronomy, Food, Natural Resources, Animals and Environment, University of Padova, Italy

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**Proposed project summary:** UPSTREAM will provide emerging and sustainable solutions with substantial potential across multiple sectors, including feed and food, to replace meat and fishmeal. The project aim to convert via fungi fermentation diverse agri-food industries carbon-rich residues into high-quality protein ingredients with versatile applications. With the goal to maximise biomass yields, project objectives lies on interdisciplinary approach to efficiently recovery the nutrient, optimization of fermentation conditions, robust strain selection among generas *Aspergillus*, *Neurospora*, *Rhizopus*, and downstream processing that ensure high-quality proteins, with potential to be scaled up cost-effectively. The innovative project will address food security, healthy diets and sustainability key issues and provide resource-efficient production systems.

**Programmes or calls of interest:** ERC/MSCA

**Potential role in consortium:** Principal Investigator

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## 11. Smart Packaging for a Sustainable Food Supply Chain with Digitalized Monitoring of Critical Temperature

**Dr. Marta Klanjšek Gunde**

MyCol d.o.o. and National Institute of Chemistry, Ljubljana, Slovenia

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**Proposed project summary:** Resilient, inclusive, healthy and green communities need to protect sensitive products from failures in delivery and storage, with clear accountability and no risk of cyber-attack on data. The solution envisages smart packaging with a digitised, temperature-controlling smart label supported by a digital twin, generating no digital waste, giving a recyclable packaging. The smart label will monitor the critical temperature during the transportation, and connection to the digital twin will link each package to its unique identifier and metadata. The availability of metadata for stakeholders will improve communication and responsibility sharing between them.

**Programmes or calls of interest:** Our primary interest is in Horizon Europe, Pillar 2 – Cluster 6 (Destinations interested to join RIA calls (IA calls on case-by-case basis). We can participate in EIC calls, primarily Pathfinder and join Transition calls, if our specific expertise is requested.

**Potential role in consortium:** Development of the digitised smart label

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## 12. Bioactive Compounds from Food Byproducts: Novel Approaches

**Dr. Zanda Kruma**

Faculty of Food Technology, Latvia University of Life Sciences and Technologies, Latvia

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**Proposed project summary:** The idea of the project is to implement an innovative approach for valorizing food byproducts from the fruit, brewery, and dairy industries by extracting bioactive compounds with substantial commercial and health potential. Each of these byproducts is a rich source of unique bioactive constituents: fruit waste contains high levels of antioxidants and polyphenols, brewery byproducts are abundant in dietary fibers, proteins, and essential nutrients, and dairy byproducts, such as whey, are a source of bioactive peptides and proteins with functional health properties. To maximize the recovery and purity of these compounds, we apply advanced, environmentally sustainable extraction methodologies, including green technologies, enzymatic hydrolysis, and fermentation. These processes are optimized to maintain bioactivity while reducing environmental impact, aligning with principles of sustainable processing.



**Programmes or calls of interest:**

- ✓ Horizon Europe: New healthy and sustainable food products and processes, Microbiome for flavour and texture in the organoleptic dietary shift, Preventing and reducing food waste to reduce environmental impacts and to help reach 2030 climate targets
- ✓ CBE Ju calls

**Potential role in consortium:** Partner under topics of our expertise

## 13. An International, Interdisciplinary, and Transdisciplinary Approach for Addressing Barriers and Overcoming Obstacles in the Transformation Towards a Sustainable Food System

### Assoc. Prof. Karen Lambert

Laboratory of Physiology and Experimental Medicine of the Heart and Muscles, University of Montpellier, France

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**Proposed project summary:** The mission of the Feed-Protect-Care Global Collaborative PhD Platform is to build an international community at scale will serve to strengthen and secure the capacity of the global scientific community to inform and support critical transformations to sustainable futures at local to global levels. The Platform will bring together universities from all regions of the world, with each selecting and supporting at least 2 sustainability science doctoral students per year to participate in the Platform.

Karen Lambert represents the University of Montpellier, which provides financial support for the platform. Her objectives are to recruit new universities to join the platform and to apply for European academic and research funding opportunities related to feed-protect-care initiatives.

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## 14. Are Natural Dietary Supplements Safe?

### Dr. Matjaž Novak

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**Proposed project summary:** Natural dietary supplements (NDSs) play an important role in promoting a healthy lifestyle and preventing various diseases, including cancer. The industry is characterized by a high level of innovation, the continuous introduction of new products supported by effective marketing campaigns. However, only because a dietary supplement is advertised as 'natural' ' does not necessarily mean that it is safe. Therefore, assessing the risks and potential side effects of new products is crucial. NIB offers *in vitro* assessment of the genotoxic potential of NDSs and products under development using state-of-the-art technology and high-throughput screening techniques. This assessment provides critical data for manufacturers to make necessary product improvements prior to market launch and to ensure overall product safety.

**Programmes or calls of interest and potential role in consortium:** NIB is a valuable partner in various calls, such as EU4Health, Horizon 2020, Horizon Europe and MCSA.

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## 15. Nutritional Needs and the Role of Health Professionals in the Education of the Young Population

### Prof. Gordana Panova

Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia

E-mail address: [gordana.panova@ugd.edu.mk](mailto:gordana.panova@ugd.edu.mk)

**Proposed project summary:** To present the nutritional status and degree of obesity in children aged 1-14 years from several municipalities in the Republic of North Macedonia as well as the nutritional quality of the diet. To compare the increased number and condition of obesity in childhood and its consequences as a public health problem. Activities should be carried out to assess growth, development, nutritional status, physical health and disease prevention, genetically modified food and the impact of various food products on health, EU policy and strategy in the field of nutrition, anthropometric standards and detection of groups with nutritional risk.

**Short description of the project:** The project will include population groups of children from kindergartens from several municipalities as well as children from primary schools from several municipalities in the Republic of North Macedonia. The activities will be carried out throughout the year according to a single methodology in a procedure for monitoring growth and assessing nutritional status in children.

Expected results:

- **Deviations** in body mass in the studied population of children aged 1-14, within +/- 2 and 3 SD. Malnutrition and deviation in growth in children. Increased body weight and obesity in children, as well as disorders in nutritional status.
- **Prevention** in early childhood with proper guidance on the composition and habits of nutrition, lifestyle and promotion of physical activity.



- **Clinical nutrition:** nutritional diseases, division, pathophysiology and basic characteristics; primary nutritional disorders (obesity and malnutrition), chronic diseases and nutrition, infectious diseases and nutrition, micronutrient malnutrition, clinical diagnosis of nutritional disorders, nutritional therapy strategy, specific diets for various diseases.

**Programmes or calls of interest:** In epidemiological research and confirmation of the health status of children, an assessment of nutritional status will be made and will be carried out with the following examinations: Anthropometric examinations, dietary examinations; Biochemical examinations; Functional examinations; Clinical examinations. Physiological mechanisms for regulating the intake and deposition of energy substances, maintaining body mass, factors that influence energy production in the body and the mechanisms of action of nutrients at the cellular and molecular level, the importance of aerobic and anaerobic metabolism, and metabolic adaptation during physical activity. Improving children's eating habits.

**Potential role in consortium:** Collaboration conferences, workshops and exchange of opinions and suggestions with colleagues from other countries as well as adoption of new scientific ideas for the benefit of proper nutritional development in the young population.

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## 16. Harnessing Thermophiles for the Preparation of Deuterium-Labelled Organic Compounds

**Dr. Ross Jansen-van Vuuren**

Faculty of Chemistry and Chemical Technology, University of Ljubljana, Slovenia

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**Proposed project summary:** With increased demand for deuterium (D)-labelled compounds over a range of applications, there is a corresponding need to prepare these compounds in ways that are affordable, sustainable, and efficient.

Biocatalysis is one such option; however, a decisive limitation of enzymes is their low stability, which negatively impacts their lifetimes and recyclability.

We propose to use 'thermozymes' to overcome this, in the efficient preparation of D-labelled materials. These include: thermophilic decarboxylases, dehalogenases, desulfonative enzymes, epimerases, and deoxygenases.

**Programmes or calls of interest:**

1. Targeting aquatic extremophiles for sourcing novel enzymes, drugs, metabolites and chemicals (HORIZON-CL6-2024-CircBio-01-10)
2. MSCA COFUND 2025, HORIZON-MSCA-2025-COFUND-01-01
3. Teaming for Excellence, HORIZON-WIDERA-2025-ACCESS-01-01-two-stage

**Potential role in consortium:** I am an organic chemist with knowledge in D-labelling and medicinal chemistry; I seek enzymologists and experts in the immobilization of (bio)catalysts within continuous flow chemistry systems.

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## 17. Exploring Health Effects of Plant Food Bioactives Using Integrative Multi-Omics Approach

### Prof. Tatjana Ruskovska

Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia

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**Proposed project summary:** Health-promoting dietary patterns, such as the Mediterranean diet, are based, among other factors, on the consumption of substantial amounts of plant-based foods. These foods are rich in macronutrients, dietary fibers, and a variety of bioactive compounds including (poly)phenols, phytosterols, and carotenoids. Studies have shown that some of the health-promoting properties of plant-based foods can be attributed to these bioactive compounds. The biological effects of certain plant food bioactives are well studied; however, many aspects and bioactives still require further investigation. This need also applies to new, innovative foods with potential to be incorporated into the human diet.

**Programmes or calls of interest:** In this context, there is considerable scope for developing collaborative European projects aimed at exploring the under-researched aspects of plant food bioactives by employing cutting-edge analytical multi-omics technologies and integrative bioinformatic approaches.

**Potential role in consortium:** My role in such a consortium would involve identifying the molecular targets and mechanisms of action of plant food bioactives, focusing on their positive effects on human health.

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## 18. Innovative and Sustainable Solutions in Freshwater Fish Processing

### Dr. Sanita Sazonova

Fish Processing Biotechnology Study and Research Center, University of Life Sciences and Technologies, Latvia

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**Proposed project summary:** Aquaculture of freshwater fish is an important source of nutrients worldwide, so the quality and safety of fish meat is receiving increased attention. Statistical data show that the volume of aquaculture fish sales has increased in Latvia in recent years. Several freshwater fish (e.g. crucian carp, pike, tench, etc.) are available in Latvia, which are used for food, but compared to other fish, they have more fish bones, which complicates the processing process and narrows the range of buyers. The aim of the project is to find out the quality of fish grown in pond farms (microbiological and nutritional value) and its changes after pre-treatment, producing semi-finished fish meat. The most suitable fish processing technology has been found. The research is multidisciplinary and creates synergies between aquaculture (agriculture), veterinary medicine and food engineering. The knowledge gained in

the project will contribute to the understanding of knowledge-intensive bioeconomy aquaculture farms about the conditions of the most suitable sustainable breeding system and, therefore, the successful development of pond farms. Also, the development of new fish products opens opportunities for export. Sustainable practices, including responsible fish farming and reducing processing waste, are increasingly important in the industry.

**Programmes or calls of interest:** Horizon Europe projects

**Potential role in consortium:** Project partner

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## 19. Collaborating for a Cleaner Future: Pollution Removal and Sustainable Fertilizers

### Assoc. Prof. Agne Sulciute

Faculty of Chemical Technology, Kaunas University of Technology, Lithuania

E-mail address: [agne.sulciute@ktu.lt](mailto:agne.sulciute@ktu.lt)

**Proposed project summary:** The pitch will cover the research themes of the scientific group at the Department of Inorganic and Physical Chemistry, Faculty of Chemical Technology, Kaunas University of Technology. Our primary research areas include the removal of oil, its derivatives, antibiotics, biological, and other environmental pollutants, alongside the development and sustainable application of innovative fertilizers.

**Programmes or calls of interest:**

- **Circular Economy and Bioeconomy Sectors**
  - o Innovative solutions for a sustainable and circular economy, for example, using fertilizers derived from legumes and other waste or employing photocatalysts for pollution reduction;
- **Clean Environment and Zero Pollution**
  - o Environmental biotechnologies for ecosystem restoration;
  - o Pollutants in the bio-industry: mapping, replacement, and removal using photocatalysts or bioreactors;
  - o Removal of oil, its products, antibiotics, and other pollutants: cumulative impact of marine pollution on marine organisms and ecosystems.

**Potential role in consortium:** Partner

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## 20. Analysing the Broader Health, Environmental and Social Benefits of Active Living, with a Particular Focus on Children, Young Adolescents and Significant Adults, and Comparing Different Rural and Urban European Regions

### Prof. Attilio Carraro

Faculty of Education, Free University of Bozen-Bolzano, Italy

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**Proposed project summary:** The project would provide a comprehensive analysis of the multiple benefits of active lifestyle and determinants and barriers to active living, focusing on the different dimensions of health (physical, emotional, mental, social, and spiritual) and their interconnections in youths and significant adults. A socio-ecological approach, including individual, interpersonal, environment, regional and national policies, and global (e.g. economic development, urbanization, media, ...) factors, will be adopted. A comparative study on rural and urban European (and if possible extra-European) areas is expected. A specific attention will be given to evaluate the effectiveness of different intervention methods and tools on active living promotion. The project may provide valuable information for the implementation of gold practices in different geographical areas.

**Programmes or calls of interest:** Horizon Europe, LIFE Programme.

**Potential role in consortium:** We, at the Free University of Bozen, are available to both take a leadership role or act as a partner or a member of a research consortium led by other Colleagues.

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## 21. Mediterranean Algae as a Source of Sustainable Functional Food

### Prof. Antonella Verzera

Department of Veterinary Sciences, University of Messina, Italy

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**Proposed project summary:** Despite different projects have been carried out in the last years on algae, only about 10% regard their use for food consumption and as dietary supplements. Thus, this project idea aims to explore new edible seaweeds for the development of sustainable algae-based food. The project activities will include the identification of edible Mediterranean algae species; chemical and biochemical analyses, food safety and health; approval as novel foods; evaluation of large-scale production technologies and resources demand; algae-based food development; consumer's perception and acceptance; market integration.

**Programmes or calls of interest:** Horizon Europe -Pillar II, Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture, and Environment.



**Potential role in consortium:** Identification of algae species; chemical analyses, food safety and health; algae-based food development; consumer's perception and acceptance.

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## 22. Strategies for the Conservation of Threatened Plant Species and Communities in Europe

**Dr. Robert Philipp Wagensommer**

Free University of Bozen-Bolzano, Italy

E-mail address: [robertphilipp.wagensommer@unibz.it](mailto:robertphilipp.wagensommer@unibz.it)

**Proposed project summary:** The project aims at the conservation of rare and threatened plant species (especially vascular plants) and plant communities in European countries, with particular reference to the Habitats Directive 92/43/EEC.

**Programmes or calls of interest:** Especially INTERREG and LIFE+, but also other international calls.

**Potential role in consortium:** PI, Co-I or participant, depending on the personal involvement and the required skills.

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## 23. Enhancing Governance and Support Systems for Sustainable Geographical Indications in the EU

**Dr. Erik Logar**

Research Centre of the Slovenian Academy of Sciences and Arts, Slovenia

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**Proposed project summary:** The current system for Geographical Indications (GIs) in the EU, while integral for protecting the authenticity of local products and promoting regional economic growth, faces significant challenges, particularly in countries with limited experience managing GIs. In many regions, the systems in place for GI governance are either fragmented or underdeveloped, hindering the full potential of these quality schemes to contribute to sustainable development. This project seeks to address these gaps by developing robust governance frameworks and tailored support systems, enabling more efficient, sustainable, and effective management of GIs. It will focus on regions that have not yet fully realized the socio-economic, cultural, and environmental benefits that GIs offer, ensuring their long-term success and alignment with EU strategies such as the Farm to Fork strategy.

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## 24. Hybrid foods in sustainable food systems

**Prof. Tomaž Polak (Jr. Res. Mojca Kuhar)**

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**Proposed project summary:** An increasing number of consumers are incorporating plant-based alternatives into their diets and reducing meat consumption due to health, environmental, and animal welfare concerns. In this context, hybrid meat products have emerged as a promising alternative to traditional meat, replacing a part of meat with plant-based ingredients such as legumes, grains, and vegetables. These products retain the characteristic taste and texture of meat while enabling claims like “source of fibre”. Plant-based ingredients offer functional and nutritional benefits, including protein content and lower levels of saturated fats. Hybrid products, such as burgers and sausages, are already available, while the development of hybrid dried sausages could improve their quality by reducing oxidation and the accumulation of biogenic amines, which affect stability and safety.

**Programmes or calls of interest:** This project aligns with Horizon Europe's Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture and Environment

**Potential role in consortium:** Technological development of hybrid products and analytics of these products from the perspective of safety, health and nutritional sustainability.

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## 25. Digital Holographic Microscope for Automatic Analyzing of Liquid Samples

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**Proposed project summary:** Automatic analysis of water based samples is often needed in industrial processes, environmental monitoring, or academic research. There are many chemical and physical sensors, however it is not easy to find automatic microscopic monitoring devices. We have developed the Holodetect microscope family, which can analyze various liquid samples, detect, classify and count living creatures or

floating objects. It can measure the florescent response of the individual objects. Its AI based engine can be quickly retrained to identify new kinds of objects.

Typical applications:

- Algae cell counting in bioreactor samples or in surface or industrial waters;
- Yeast cell counting in wine or beer samples;
- Worm or protozoa detection and counting in drinking water samples;
- Particle detection and size distribution detection;
- Membrane filter failure detection;

**Programmes or calls of interest:** European or bi-lateral international programs in which automated microscopic measurements are needed.

**Your role in the partnership:** We can contribute as a partner by installing volumetric microscopes or do some further development on them in case of special needs.

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## 26. Integrating Insect Bioconversion for Sustainable Circular Food System

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**Proposed project summary:** TBA

**Programmes or calls of interest:** TBA

**Potential role in consortium:** TBA

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## 27. Integrating Insect Bioconversion for Sustainable Circular Food System

**Assoc. Prof. Andreja Čerenak (Dr. Barbara Čeh)**

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Proposed project summary: TBA

Programmes or calls of interest: TBA

Potential role in consortium: TBA

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