**Title: Modulation of food system microbiomes for better food systems**

Referent person: Prof. Marco Candela, e-mail: marco.candela@unibo,.it

Brief description:

In the frame of the CIRCLES H2020 EU project, the aims is to discover and translate innovative microbiomes-tailored circular actions into concrete applications that will ultimately enhance EU food system performances and their overall sustainability. We will, first, enable to increase knowledge on the importance of food system microbiomes as determinants of productivity, quality, safety and sustainability. This discovery phase will nurture the design and implementation of food system-specific microbiomes-tailored circular actions. Relying on an integrative usage of different Smart Microbiome (SM)-modulators, circular actions aim to optimize the microbiomes of food systems, from farm to fork, for an overall improvement of food system performances. The effectiveness of actions will then be tested in the labs in the field.

Possible starting date: January 2023

**Title: An overview of stable isotope analysis of light elements for authenticity and traceability of food of animal origin**

Referent person: Prof. Sergio Ghidini – Maria Olga Varrà: sergio.ghidini.unipr.it

Brief description:

Review of the literature in the field of authentication of products of animal origin through stable isotopes determination.

Possible starting date: January 2023

**Title: State of the art of probabilistic exposure assessment techniques**

Referent person: Prof. Sergio Ghidini – Maria Olga Varrà: sergio.ghidini@unipr.it

Brief description:

Review of the methods and techniques adopted and performed to give a probabilistic exposure assessment.

Possible starting date: January 2023

**Title: Exposure assessment to dioxins and PCBs from meat consumption in Lombardia and Emilia Romagna regions**

Referent person: Prof. Sergio Ghidini – Maria Olga Varrà: sergio.ghidini@unipr.it

Brief description Combining contamination data with exposure databases via monte Carlo simulation techniques in order to assess the probability of consumers to exceed the TDI.

Possible starting date: February 2023

**Title: Supplier quality management**

**INTERNSHIP at CSM – Crema (CR)**

Referent person: Prof. Chiara Dall’Asta: chiara.dallasta@unipr.it

Brief description:

The correct management of suppliers is of fundamental importance for a food company: it allows to prevent food safety risks and helps to make the entire supply chain safer. CSM, with its current 9 factories, of which 7 in Europe, 1 in Tunisia and one in China, purchases thousands of raw materials from hundreds of suppliers. Therefore the management system must be robust. The project envisages an assessment of the current state of the management system, an analysis of the risk categories and the current categorization of suppliers, also consistent with the requests of the food safety certification bodies: how they are approved, what the documents are, how system maintenance, and finally an improvement proposal for an agile approval and maintenance of useful information.

Possible starting date: February/March 2023

Please, provide a CV. The company will select the candidate by interview – The company will support the candidate in finding an accommodation, if needed.

**Title: Quality Handbook**

**INTERNSHIP at CSM – Crema (CR)**

Referent person: Prof. Chiara Dall’Asta: chiara.dallasta@unipr.it

Brief description:

For in a multinational company all the different plants and all the functions to have a standardized and recognizable approach consistent with the company's values, it is essential that there are clear guidelines and shared procedures that allow those who work in the plants and offices to understand the fundamental processes and know their rules. The project plans to review and define a document structure, what the fundamental policies are, from which define and re-write the procedures at a global level (and which instead must be delegated in part or in toto to local groups). The last piece of the project is the definition of the best system for simple electronic document maintenance.

Possible starting date: February/March 2023

Please, provide a CV. The company will select the candidate by interview – The company will support the candidate in finding an accommodation, if needed.

**Title: Material risk assessment**

**INTERSHIP at HI-FOOD – PARMA (from Feb/March 2023)**

Referent person: Prof. Chiara Dall’Asta: chiara.dallasta@unipr.it

Brief description:

The aim of the project is to strengthen the risk assessment of the different categories of raw materials used in production. In particular, to identify new and emerging risk associated to the raw materials on a food safety and food vulnerability point of view. The risk assessment will help the company to perform an adequate supplier and raw materials approval.

Possible starting date: February/March 2023

Please, provide a CV. The company will select the candidate by interview.

**Title: Technological approaches to mitigate the allergenic potential of plant-based proteins**

Referent person: Prof. Maria Paciulli: maria.paciulli@unipr.it

Brief description:

The plant-based protein demand is growing rapidly due to healthy, environmental, or ethical reasons. Allergens in plant proteins are among the major factors inhibiting their wide applications. Thus, it is important to reduce the allergenicity of plant-based proteins for producing ingredients with enhanced functionality, digestibility, and nutrient bioavailability. The aim of this project is to perform a comprehensive literature review of the current research work performed on thermal and non-thermal food processing techniques for mitigating the allergenicity of plant proteins.

Possible starting date: February/March 2023

**Title: Using miniature near infrared (NIR) spectroscopy as a as a tool to rapidly monitor freshness and shelf life of mussels**

Referent person: Sergio Ghidini – Maria Olga Varrà: sergio.ghidini.unipr.it

Brief description:

Following mussels life from harvest to end of shelf life. Performing measurements in order to draw a curve able to predict the freshness of mussels.

Possible starting date: April 2023

**Title: Methyl mercury determination in fisheries**

Referent person: Sergio Ghidini – Emanuela Zanardi: sergio.ghidini@unipr.it

Brief description:

Determination of methyl mercury in set of samples including crustacea and molluscs and comparison to the determination of the total mercury.

Possible starting date: June 2023