

Results of the EU funded SAFFI project were presented and discussed last July at the annual meeting of the International Association for Food Protection (IAFP) in Toronto, Canada.

Major in progress achievements were discussed.



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News on the SYMPOSIUM:

Food Safety of Infant Foods: Care for Our Most Precious (Organized by Prof. Marcel Zwietering of Wageningen University, NL)

Three seminal informative talks on Hazard Identification, Hazard Control and Hazard Detection were presented by investigators of the Horizon 2020 funded SAFFI (Safe Food For Infants) project at the European symposium on food safety held in Toronto, Canada, in July 2023:

1. Hazard Identification and Risk Ranking for Microbial Risks in Infant Foods (Kah Yen Claire Yeak, Wageningen University, NL)
2. Hazard Control in Infant Foods Using Emerging Processes Technologies (Sara Bover-Cid, IRTA, Spain)
3. Traditional and DNA-Based Analytics for Microbial Hazard Detection and Behaviour in Infant Foods (Kalliopi Rantsiou, University of Turin, Italy)

Each year, the International Association for Food Protection hosts an Annual Meeting, providing attendees with information on current and emerging food safety issues, the latest science, innovative solutions to new and recurring problems, and the opportunity to network with thousands of food safety professionals from around the globe. Held in various locations throughout North America, this meeting has grown over the years to become the leading food safety conference worldwide. In 2023 the IAFP meeting was held in Toronto, Ontario, Canada and included the symposium *"Food Safety of Infant Foods: Care for Our Most Precious"*, organized by Prof. Marcel Zwietering of Wageningen University, NL, in which were discussed the key aspects that are required for infant food safety: identification, ranking and control and monitoring of potential hazards. The major in progress achievements of the European Union Horizon 2020 funded Safe Food For Infants project (SAFFI) were presented by members of the SAFFI consortium, including dr. Kah Yen Claire Yeak of Wageningen University, dr. Sara Bover-Cid, researcher at the Institute of Agrifood Research and Technology in Girona, Spain and prof. Kalliopi Rantsiou of the University of Turin, Italy.

SAFFI is one of the 3 projects selected within the framework of the European Horizon 2020 call for projects SFS-37-2019 "Integrated approaches for food safety along the food chain" concerning research and innovation actions. Interviewed by the editor of this "Newsletters", the researchers of the SAFFI Consortium emphasized that infants are more vulnerable to foodborne diseases. Therefore, to ensure food safety, in general but even more so for infant foods, it is relevant to identify and rank hazards, to control the risk by properly validated interventions and to test for the hazards in the food and food processing environment for verification.



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At the symposium, these important factors were addressed by the speakers, who presented their work under the SAFFI project. The important methodological approach adopted by the SAFFI research groups was described and discussed. The speakers reported that a variety of databases on hazards, foods, outbreaks, and epidemiological data were used to develop a decision support system for hazard identification and risk ranking. Moreover, SAFFI's researchers have assessed the impact of emerging processing and preservation technologies on the behavior of prioritized pathogens in infant food. Very interesting was the case-study dealing with high pressure processing of fruit purees and the decision support system prototype developed for setting the conditions of this non-thermal technology to control hazards. Finally, traditional and molecular detection techniques applied to ingredients, environmental and end products.

The work performed by the SAFFI researchers supplies essential information to develop efficient monitoring and sampling strategies at operational (infant food companies) and governmental (food safety agencies) level, designing or evaluating Hazard Analysis and Critical Control Point (HACCP) programs, performing quantitative risk assessments. An example that well describes the importance of these findings is their use in assisting auditing activities and therefore their relevance for food industry, governments, and academia in ensuring the safety of infant food.

During the IAFP meeting in Toronto, the three speakers of the SAFFI Consortium also described how the research groups are proceeding to develop procedures that will enable discovering unexpected contaminants by predictive microbiology and improve risk-based food safety management of biohazards by omics and predictive microbiology. To this regard the SAFFI consortium will develop and deliver to stakeholders a decision-support system (DSS) to enhance safety control all along the food chain. The importance of such DSS will be its ability to integrate the existing databases, procedures and methods and offer a useful framework for a generic DSS dedicated to other food.



From left to right. The SAFFI team attending the meeting in Toronto is pictured in the first and last image: Prof. M.Zwietering, Wageningen University,NI, Prof. K.Rantsiou, University of Turin, It and dr.S.Bover-Cid, IRTA, Sp. In center picture prof. Zwietering.

The meeting in Toronto signed a step forward to further improve the existing EU efficient control and monitoring systems of infant food safety. Resulting databases, tools and procedures will be shared, cross-validated, concatenated, benchmarked, and finally harmonized for further use in the EU and China. SAFFI will also set up training and knowledge transfer activities to foster EU-China harmonization of good practices, regulations, standards, and technologies, and will cluster with other projects under the EU-China initiative for continuous upgrade of food safety control.

As a final comment, the Editor of this Newsletters would like to raise attention on the importance of quality and safety aspects of infant nutrition, which are of key importance for child health, but oftentimes they do not get much attention. For instance, health care professionals, who are the prescribers, tend to focus mainly on functional benefits of early nutrition. Unbalanced diets and harmful food components induce particularly high risks for untoward effects in infants because of their rapid growth, high nutrient needs, and their typical dependence on only one or few foods during the first months of life. The concepts, standards and practices that relate to infant food safety have been well discussed by the SAFFI researchers at a scientific workshop in Aberdeen. The participants discussed past and current issues on safety, the role of different stakeholders, and recommendations to avert future issues. The important conclusions emphasized that a high level of quality and safety is currently achieved, but this is no reason for complacency. Global collaboration of food producers, food-safety authorities, pediatricians and scientists is needed to efficiently exchange information and to further protect public health. The IAFP annual meeting was attended by more than 3,800 of the top industry, academic and governmental food safety professionals from six continents. This event which owes its reputation and success to the quantity, quality, and diversity of each year's program, offered a valuable international platform to present the in progress achievements of the SAFFI project and to emphasize its efforts to develop an effective and efficient decision support systems able to further enhance safety controls along the infant food chain.



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SAFFI: THE SINO-EUROPEAN CONSORTIUM PARTNER CENTERS



- Coordination: French National Research Institute for Agriculture, Food and Environment (INRAE),
- Five international infant food companies (Friesland Campina, HiPP, YIOTIS, Beingmate, YFFC)
 - Two food safety authority institutions (ZAIQ and ANSES)
 - Three European technological SMEs (CremeGlobal, Computomics, BDS)
 - The Union of 49 National European Societies of Pediatric (EPA-UNEPSA)
 - Seven leading European and Chinese academic institutions (WU, UNITO, IRTA, IVV; ZJU, ZAAS, JAAS)



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