Marta Bisaschi

KEY-WORDS:
FOOD SAFETY · NANOPORE SEQUENCING · PLANT-BASED

PHD STUDENT – FOOD MICROBIOLOGY

PROJECT TITLE – TITAN Horizon Europe project

"OMICS TECHNOLOGIES AND MOLECULAR APPROACHES FOR FOOD QUALITY AND SAFETY IN LONG SHELF-LIFE PLANTBASED PRODUCTS"

PROFILE

I'm a second-year PhD student in Food Microbiology, specialized the use of omics and molecular technologies to improve the safety and traceability of food chains. Thanks to a collaboration with the University of Bodenkultur (Austria) I learnt the value of international exchanges and understood how different realities can teach you something new.

AFFILIATION

Department of Food Science and Technology for a Sustainable Agrifood Supply Chain (DiSTAS)
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LANGUAGES

Mother language

Level C1

HOW TO REACH ME

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Steps of the research and main results

1: Determination of a DNA extraction system in plant-based products
2: Metagenomics analysis (sequencing with Oxford Nanopore) of selected products
3: Lab-scale trials of PCR-based kits for the detection of selected pathogens
4: Industry scale trials of PCR-based detection kits

Research Contribution

The expected goal of is to build rapid pathogen identification kits which, based on DNA-based technologies, that, if validated on pilot plants in the company, can be widely purchased and adopted by food companies. The final expectation is that this research will be helpful in improving the safety of these products and the traceability of the entire supply chain, guaranteeing safe products for the health of all consumers.

Collaborations

27 European partners of the project from 14 different European Countries.

Why should you care?

In the face of the high increase in the production of plantbased products, there is a lack of investigation in to their microbiological quality and the traceability of this supply chain. However, several cases of recall of these products have occurred, due to microbial contamination. Therefore, which could be efficient and rapid method to apply on the production chain to quickly detect the presence of a pathogen.