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#### Education:

- PhD student in Animal and Food Science (2025)
- Master's degree in food and health (2022-2025)
- Bachelor in Midwifery (2015-2019)

#### Research areas:

- Food Science
- Valorization of by-products
- Human nutrition
- Bioactive compounds
- Enzyme activity

#### Brief description of Ph.D project:

In recent years, consumer preferences for food products have shifted from prioritizing quantity to emphasizing quality, health benefits, and natural ingredients. Consumers now demand food items that are not only satisfying but also natural

and beneficial for overall well-being. Simultaneously, a significant amount of food by-products, often discarded as waste, are rich sources of bioactive substances like phenolic compounds, dietary fibers, chlorophylls, carotenoids, etc. These by-products represent an underutilized yet valuable resource for enhancing sustainability and nutritional value in food products. The bioactive compounds present in these by-products could act as natural inhibitors of enzyme activities that affect food quality and/or control lipid oxidation. The growing interest in replacing synthetic food antioxidants with natural alternatives has led to multiple investigations into new antioxidant sources.

The search for inexpensive, renewable, and abundant sources of natural antioxidants has focused on raw materials of residual origin, which are especially promising due to their low costs. Moreover, these residuals can be valuable resources for emerging business models competing in the eco-products and/or healthy foods market. Various extraction techniques, such as ultrasound-assisted and microwave-assisted methods, have been found to impact the recovery capacity of these bioactive compounds compared to conventional extraction methods. Therefore, a major challenge lies in developing efficient and sustainable methods for recovering nutrients and functional compounds from these by-products.

In brief, this research project aims to investigate the effect of green technologies on functional and bioactive compounds, including polyphenols, chlorophylls, enzymes, etc., found in food by-products, and explore their potential applications in food systems. The goal is to enhance the nutritional value and physico-chemical quality of food products while contributing to waste reduction and resource efficiency. The expected outcomes of this research project have the potential to create value from underutilized resources, promote the development of natural and healthier food products, and advance sustainable practices in the food industry.

Supervisor: Prof. Anna Lante

Publications: [google scholar](#)