



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

FOOD PROCESSING, PRESERVATION AND PACKAGING

Optimization and innovation strategies toward sustainable production technologies and packaging solutions for both plant based (fruit, vegetables, cereals, etc.) and animal origin foods, wine and beverages.



Technological innovation is essential to improve food quality and safety, reducing energy demand and increasing process sustainability and product functionality. Research at University of Bologna covers a wide range of issues:

- Non destructive analysis and determinations of quality parameters during processing and storage (sensors, e-nose, Image analysis, etc.) to promote on-line data collection and digital processing
- Impact of different processing and storage technologies (frying, drying, baking, cooking, chilling, freezing, etc.) on plant and animal products
- Optimization of advanced analytical techniques to better guarantee food quality, authenticity and food origins
- Study of pretreatment and the processing conditions to minimize the formation of toxicants in food
- Advanced mathematical and statistical analyses in food engineering for product and process optimization
- Set up and optimization of fermentation processes in order to obtain traditional or innovative products with particular nutritional, functional and organoleptic characteristics
- Factors affecting microbial metabolism and selection of strains to be employed to improve the quality of fermented foods (meat, dairy, bakery, etc.)
- Advanced technologies to obtain active and eco-friendly packaging

HIGHLIGHTS

H2020 projects: [OLEUM](#) -Advanced solutions for assuring authenticity and quality of olive oil); [EcoPROLIVE](#) - Ecofriendly processing system for the full exploitation of the olive health potential in products of added value;

ERANET: [ECOBERRIES](#): Innovative and eco-sustainable processing and packaging for safe and high quality organic berry products with enhanced nutritional value;

Infrastructures: [The CIRI Agrifood](#), the Interdepartmental Centre of Industrial Agrifood Research, has the aim of reinforcing the relation between industry and research centers, promoting the technological transfer in order to meet the needs of the productive sector; it is equipped with innovative pilot plants for food processing and packaging.