ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

FOOD SAFETY AND TRACEABILITY

Multidisciplinary research and innovation strategy for Food Safety Assessment and Hazard Risk Management based on sustainable solutions, early predictive models and traceability biomarkers.

University of Bologna offers a multidisciplinary approach to improve food safety, based on a broad range of knowledge and state-of-the-art equipment.
Research at University of Bologna covers a wide range of issues:

- Update omics technologies to detect, identify and characterize food-borne pathogens and chemicals in foods and feed
- Intervention strategies to reduce the antibiotic resistance in farming and food production
- Prevention and control of food-borne zoonoses through a "one health" approach
- Innovative and sustainable bio–technologies, packaging and logistics to improve food safety along the whole food chain
- Selection of starters, biocontrol agents and probiotics to improve food safety
- Strategies to prevent/limit mycotoxin contaminations in the agro-food systems
- Strategies to prevent/limit pests and diseases based on probiotics and prebiotics to reduce pesticide and drug use
- Set up of methods for post-production removal of contaminants
- Predictive microbiology, risk analysis and set up of tools for hazard identification and assessment along the food chain up to consumer level
- Development of analytical and sensorial methods and foodomics applications for food traceability and authenticity

HIGHLIGHTS

H2020 projects: **CIRCLES** - *Controlling mIcRobiomes CircuLations for bEtter food Systems*; **TROPICSAFE** - Diseases management of crops grown in tropical and subtropical areas; **COMPARE** - Information sharing platforms for the rapid identification, containment and mitigation of emerging infectious diseases and foodborne outbreaks; **AUTHENT-NET** - Transnational information on food authenticity to combat food frauds.
International Networks: **DISH** - *Joint Centre for Excellence in Food Safety* together with Lund University, DTU, and the Hong Kong Polytechnic University
Infrastructures: Genomics, proteomics and metagenomics laboratories equipped with NGS and BIOLOG technologies for genotyping and phenotyping; Foodomics laboratory equipped with HR- and TD-NMR instruments for authenticity and traceability; Bio-analytical laboratories equipped with IR, GLC, LC and MS instruments for biotic and abiotic contaminants control; Wide collection of safe and wild microorganisms for starters, biocontrol agents and probiotic selection; Class 2 and BL3 Microbiology Laboratories for isolation and characterization of food-borne pathogens.