



KEY-WORDS:
ANTIMICROBIAL RESISTANCE ·
GENETICS · FOODS

PROFILE

I am a first year PhD student in Microbiology specialized in Food Science and Technology.

AFFILIATION

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LANGUAGES



Mother language

Level B2

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PROJECT TITLE

Microbiological Food Safety in a Global Scale: new challenges and emerging risks

Steps of the research

- Extended literature review, aimed to understand the main new molecular methods for the antimicrobial resistance genes detection and on the prevalence of AMR bacteria in foods.
- Hazard characterization, identifying the bacterial species, the genes conferring AMR, the prevalence of MDR in food associated communities and the role of horizontal gene transfer in the spread of AMR in food communities.
- Exposure assessment aimed to quantify the amount of AMR bacteria (pathogens and commensals) present at the consumption stage in different RTE foods.
- Development of mitigation measures to limit consumer exposure to pathogenic and AMR bacteria through food.

Main Results

Significant growth reduction of pathogenic bacteria in salami mixtures by using protective cultures

Research Contribution

Once obtained, this information would allow a greater control of the presence of antimicrobial resistant bacteria in food and a reduction in the spread of antimicrobial resistance from food to humans.

Why should you care?

Through the food-borne route, humans can be infected by zoonotic bacteria like *Campylobacter*, *Salmonella* and some strains of *Escherichia coli*; for this reason, the food chain has been recognized as one of the key routes of antibiotic resistance transmission from animal to human bacterial populations. The presence of antimicrobial resistant genes in food borne pathogens, that cause infections in humans, is responsible for an increase and extension of hospitalization and a reduction of types of care.