



## MICROEMIRO

The MicroEmiRo project aims to improve the quality and safety of food productions in the Emilia-Romagna Region through the exploitation of selected microbial cultures.

### LEADER



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA  
CENTRO INTERDIPARTIMENTALE  
DI RICERCA INDUSTRIALE AGROALIMENTARE

### CIRI AGRO

*Scientific Coordinator:*

Prof. Fausto Gardini

### PARTNERS



SITEIA PARMA

*Scientific supervisor:*

Prof. Erasmo Neviani



Centro per il Miglioramento  
e la Valorizzazione delle Risorse Biologiche  
Agroalimentari - BIOGEST-SITEIA

BIOGEST-SITEIA

*Scientific supervisor:*

Prof.ssa Maddalena Rossi



UNIVERSITÀ  
CATTOLICA  
del Sacro Cuore

BIODNA

*Scientific supervisor:*

Dott.ssa Daniela Bassi

### PARTICIPATING COMPANIES



### CONTACTS

[www.microemiro.it](http://www.microemiro.it)

[info@microemiro.it](mailto:info@microemiro.it)

MAURIZIO GUERMANDI

# MicroEmiRo



## REGIONAL MICROBIAL COLLECTIONS: EXPLOITATION OF BIODIVERSITY TO IMPROVE AGRI-FOOD INDUSTRY



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## STATE OF THE ART

The use of microorganisms to preserve food dates back to ancient times, even if fermentation processes were performed under empiric and domestic conditions. In the last decades, the continuous study of complex microbial consortia responsible for the wide variety of fermented products allowed the isolation of thousands of bacterial and fungal strains.

Nowadays fermented products play an important economic and cultural role at regional, national and international level. This precious heritage of microbial biodiversity can be used to produce new foods or to increase the quality and safety of existing fermented foods.

## THE PROJECT

The MicroEmiRo project exploits the technological potential and biodiversity of microbial resources located in four laboratories (CIRI Agroalimentare as coordinator, SITEIA.PARMA, BIOGEST-SITEIA, BioDNA) belonging to the High Technology Network of the Emilia-Romagna Region. The partnership also includes five companies (EuroCompany, Clai, Macè, Caseificio Mambelli, Chr Hansen) specialized in different food productions.

## AIM

- 1) development of new nut-based fermented products for vegan consumers endowed with good sensorial properties;
- 2) production of short ripened cheese with low salt, lactose content and calorie intake using starter cultures characterized by specific abilities (aroma profile, exopolysaccharides and bacteriocin production);
- 3) optimization of autochthonous starter cultures to increase sensorial features, safety and recognizability of traditional fermented sausages;
- 4) use of bacteriocin-producing lactic acid bacteria to increase shelf-life and safety of fresh products (ready to eat fruit salads and fresh sausages).

