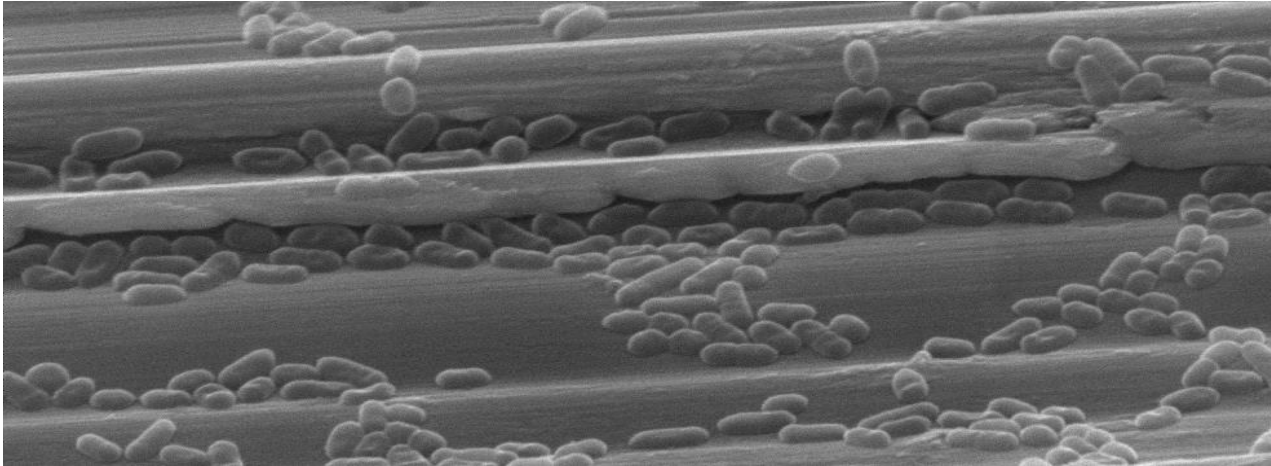


# LmRNA



## Transcriptomic analysis of *Listeria monocytogenes* in the dairy environment: new insights into physiology and control of gene expression

The LmRNA project is aimed, to gain a fundamental understanding of the foodborne pathogen *Listeria monocytogenes* genetic and physiological response to the dairy environment conditions. Characterizing a bacterium only by its genome does not fully enable the understanding of its behaviour as it is greatly dependent on the environmental factors. In order to understand the relationship between the potential information coded on the genome and the specific genes expressed at any given circumstance, a RNA-based study will be carried out. During dairy processing, milk components may adsorb to industrial surfaces enhancing attachment and biofilm formation. The presence of other microorganisms as well as antimicrobials will also affect the gene expression. Biofilms of *L. monocytogenes*, under different environmental conditions, both as single- and multi-species, will be studied. The multi-species experiments will use microorganisms identified as part of the dairy environment using state of the art methodologies based on whole genome sequencing. This project will facilitate identification of molecular targets for antimicrobials. This will lead to improved strategies to prevent microbial adaptation and resistance in the dairy industry as well as allowing the identification of critical steps of the dairy production that trigger relevant genes.

**Project Duration:** 36 months (18M Uni Vet Med Vienna + 18M Teagasc)

**Collaborating Institutions:** Teagasc Food Research Centre Moorepark, Ireland  
University of Veterinary Medicine Vienna, Austria  
Teagasc Ashtown Food Research Centre, Ireland

### Project Team:

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