



### M o h a m m a d K h a i r u l A l a m

Born in Tangail - Bangladesh

Master's degree in Nutrition and Food Science, University of Dhaka, Bangladesh and Master's degree in Molecular Nutrition and Food Technology, Aarhus University, Denmark



### Prof.ssa. Paola Pittia

A GR/ 15: Food Science and Technology

Research field: Functional characterization and technological quality of food components

### Prof. Aldo Corsetti

A GR/ 16: Agricultural Microbiology

Research Field: Food microbiology and fermented foods



### Prof. Michael Ganzle

University of Alberta, Canada

Scientific discipline: Food microbiology and probiotics



### D r. C a r l o P e r l a

R & D

DALTON Biotecnologie srl  
Spoltore (PE)

**Company mission:** to select and manage with the greatest accuracy useful biological processes while avoiding harmful ones, thus optimizing the consistency of the production process and obtaining unprecedented results in product quality and marketing efficiency.

## Probiotic and technological characterization of lactic acid bacteria to produce fermented milk

### ➤ General objectives of the project

This PhD thesis research project is aimed at evaluating the technological and functional characteristics of selected strains of *Lactobacillus bulgaricus* and *Streptococcus thermophilus*, with a particular focus on the exopolysaccharide production in fermented milk.

### ➤ Industrial impact of the project

1. Formulation of functional milk products containing health improving bioactive compounds
2. Communication of research results through scientific publications, participating in conferences and workshops, and writing, editing and submission of the PhD thesis
3. Transfer of knowledge between industry and academic through participating in training activities at industry



- **Co-projecting:** DALTON Biotecnologie has participated in this PhD research by collaborating in the design of the project and providing the necessary strains to be studied. DALTON Biotecnologie will also contribute in this project with its equipment and structure and their long-term experiences in the field of fermented food production.
- **Training:** For the planned training at DALTON Biotecnologie, the safety course and fire protection training will be provided at the company. During this period, the training on scaling-up of industrial parameters of food production will be provided by the DALTON Biotecnologie through its equipment and specialized personnel.
- **Research:** For this PhD project, DALTON Biotecnologie R&D department have pilot plants for development, concentration and stabilization of biomass (bioreactor, microfiltrator; freezing plant with pelletization in Nitrogen liquid, industrial lyophilizer for the dehydration of microbial cultures) with control and monitor the main physio-chemical process parameters.
- **Technological transfer:** The company aims to develop a probiotic fermented milk product, formulated in co-operation with UniTe and University of Alberta, Canada. The company also intends to safeguard the intellectual property of research results through patents generated in the study.

## Publications

- Perpetuini, G.; Prete, R.; Garcia-Gonzalez, N.; Khairul Alam, M.; Corsetti, A. Table Olives More than a Fermented Food. *Foods* 2020, 9, 178.



## Scientific meeting

- Probiotic and Technological Characterization of Lactic Acid Bacteria in Fermented Milk Production (Miniposter). Mohammad Khairul Alam. XXIV Workshop on the Developments in the Italian PhD Research on Food Science, Technology and Biotechnology, Florence 11-13 September, 2019.



1. PON Ricerca e Innovazione 2014-20,” azione I.1 “Dottorati innovativi con caratterizzazione industriale,” A.Y. 2018-19, XXXIV Cycle.

