

2025 Dairy Science and Technology Symposium



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Dairy Biotechnology: Quality, Safety, and Nutrition



Session 3. Biotechnology in the dairy sector

Wednesday 25 June 2025 at 15:00–17:30 CET

Introduction

Biotechnology and biosolutions are playing an important role in advancing the dairy sector by enhancing efficiency, sustainability, and innovation across the value chain. Through advanced microbial fermentation, enzyme engineering, and genetic tools, biotechnology enables the production of high-quality dairy products. The development of improved dairy cultures, enzymes, and probiotics that enhance texture, flavor, and nutritional value of dairy products or reduce waste by extending product shelf-life are examples of emerging innovations. Recombinant DNA technology allows the production of specific milk proteins or enzymes in microbial systems, reducing dependency on animal sources. In parallel, the integration of big data and artificial intelligence (AI) offers powerful tools to further transform the sector. Combined, biotechnology, AI, and big data provide a robust platform for developing next-generation dairy systems that are smarter, more efficient, and better aligned with consumer health and sustainability demands.

Chair: Lilia Ahrné (University of Copenhagen, Denmark)

15:00- 15:05 - Welcome and introduction
Lilia Ahrné

15:05- 15:30 - Keynote 1
Konstantinos Papadimitriou, Agricultural University of Athens, Greece
“Multi-omics of artisanal cheeses: Big data meets tradition”

15:30- 15:40 – Flash Presentation 1
Aleksandra Slavko, University of Peloponnese, Greece
“Multi-omics characterization of the microbial and volatile profiles of PDO Sfela cheese”

15:40-15:50 – Flash Presentation 2
Violeta Pemaj, University of Peloponnese, Greece
“Development of a Miniature Cheese System to Monitor Fermentation and Assess Quality in White Brine Cheese”

15:50- 16:15 - Keynote 2
Morten Holm Christensen, GEA, Denmark “Overview of fermentation process”

16:15-16:30 - Coffee Break

16:30-16:40 - Flash Presentation 3
Sigrid Nørgaard Beldring, Novonesis and Aarhus University
“Exploring the Role of Exocellular Polysaccharides in Yogurt Texture Formation with AI”

16:40-16:50 - Flash Presentation 4
Aritra Sinha, University College Cork
“A Novel Fluorometric Assay for Rapid and Sensitive Detection of AprX Protease Activity in Bovine Milk”

16:50-17:15 - Keynote 3
José Arnau, 21st BIO, Denmark “Precision Fermentation: The Future of Healthy and Sustainable Nutrition”

17:15 - Final Remarks and closing
Lilia Ahrné