

Center of Food and Fermentation Technologies (TFTAK)

	Priit Lumi CEO
Contacts	Akadeemia tee 15A, Tallinn, Estonia Phone +372 640 8200 e-mail: info@tftak.eu http://tftak.eu/en
General profile	The Center of Food and Fermentation Technologies was established in 2004 by six enterprises and the Tallinn University of Technology. The development of a systems biology platform for the study of microorganisms is the main scope and content of the research in TFTAK. This platform is applied to solve food technology and nutritional science tasks that are primarily related to food quality, the stability of sensory and nutritional properties and the relationships between food and health. An important goal is to optimize this complex process to ensure maximal benefits for health, as well as a positive consumer perception. Genomics and proteomics, food systems biology and physics, instrumental and descriptive sensory analysis, together with modelling, provide tools to construct a detailed, physical and chemical characterization of raw materials and additives, bacteria and their consortia. The aforementioned also provide quantitative information about how molecules, cells, organelles, and food materials interact in time and space during food production, ripening, storage and digestion in the human gastrointestinal tract.
Main research areas	The two scientific directions that have been introduced in TFTAK: 1) Development of an analytical service platform for biofood process monitoring and control, together with development of systems and synthetic biology platforms for high throughput cell research and design, and 2) Development of Food Technologies to support the innovational activities in Estonian food- and biochemical companies.
Partners	<ul style="list-style-type: none"> • DuPont • Lallemand • Valio • Bioexpert AS • Carometec A/S • Eliko Tehnoloogia Arenduskeskus OÜ • Estiko Plastar AS • Estonian Cell AS • Linnamäe Lihatoöstus AS • Lõuna Pagarid AS • Healthy Dairy CC • Premia Foods • Reval Kondiiter OÜ • Saare Leib OÜ • Saaremaa Piimatööstus AS • Salutaguse Pärmitehas AS • Santa Maria AS • Saue Production OÜ • Spratfil AS • Viimsi Vesi AS
Additional information	Genomics and proteomics, food systems biology and physics, instrumental and descriptive sensory analysis, together with modelling,

	<p>provide tools to construct a detailed, physical and chemical characterization of raw materials and additives, bacteria and their consortia. The aforementioned also provide quantitative information about how molecules, cells, organelles, and food materials interact in time and space during food production, ripening, storage and digestion in the human gastrointestinal tract.</p> <p>In addition to the CC-programme 2015-2020, TFTAK participates in international scientific programmes FP7, H2020, EIP and Interreg.</p>
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