

Production and Delivery of Bioingredients, a new TI Food and Nutrition project

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Both consumers and industry currently show an increased awareness of healthy and tasty foods. The process of food fermentation is the natural way for delivering functional, biologically produced components, called bioingredients, into food products. In many fermented foods, these bioactive components are derived from the breakdown of proteins and the subsequent conversion of peptides and amino acids. The resulting products may contribute to health as well as flavour formation. Although the genomic and metabolic insight in industrial microbes, notably lactic acid bacteria, is rapidly increasing, there is a clear need to develop efficient and generic tools to predict and steer formation of desirable products in food fermentations.

Within the TI Food & Nutrition project “Production and Delivery of Bioingredients” we will study production of functional bioingredients that are all derived from proteolysis of proteins and amino acid metabolism. The focus will be on flavour formation, including the production of aromatic and volatile components from amino acids, and the development of generic models for peptide production and peptide stability. The project will develop tools for improved and controlled production of these bioactive components, and it will deliver predictive generic models as well as strategies to realise this. With this knowledge, industry may develop novel fermented food products with new and improved functionalities.