Aquatic Food Production – Safety & Quality (AQFood)

Title
Development and evaluation of salt-reduced seafood products containing alternative types of preservation

Type of project and ECTS
30 ECTS M.Sc.-thesis-project within the AQFood programme

Short description
This project will be part of a larger national research program aiming at developing seafood products with improved human health effects, sensory quality and food safety. The main objective of the project will be to develop salt-reduced seafood products and to identify alternative types of preservation that can replace the desired effect of salt on quality and safety. During the project, you will be part of a dedicated research group and become familiar with product development, sensory analysis, chemical, microbiological methods and predictive food microbiology.

Project description
Several studies have shown that the Danish population eats too much salt. On an annual basis, it has been estimated that a reduction in the daily intake of salt of 3 g per person will be able to prevent 1300 cardio vascular fatalities and reduce healthcare costs by as much as 1-2 billion Danish kroner. More than 70% of the salt that we eat originates from processed and ready-to-eat foods. On that background, authorities and retailers have increasingly begun to challenge the food industry for development and production of foods with a reduced content of salt. However, development of salt-reduced foods is not an easy task as it requires knowledge about changes in sensory properties as well as the risk of growth by spoilage and pathogenic microorganisms. Within the project, the effect of alternative types of preservation on sensory properties and the potential growth of relevant microorganisms (*Listeria monocytogenes*, *Clostridium botulinum* and lactic acid bacteria) in the developed seafood products (e.g. marinated salmon or lumpfish roe) will be examined. Alternative types of preservation could be selected among Nordic vinegar, alcohol, spices/herbs, plants and condiments (e.g. soy sauce). Based on the obtained results, the performance of existing predictive models for e.g. *Listeria monocytogenes* will be evaluated and if necessary expanded/adjusted.

University and Supervisors

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Industry collaboration

This project is carried out in collaboration with Royal Greenland Seafood Ltd.