



## Aquatic Food Production – Safety & Quality (AQFood)



### Title

Evaluation of quality and safety for salt-reduced seafood products added bio-protective cultures

### 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 identify and examine the application of bio-protective cultures as preservation for salt-reduced seafood products. During the project, you will be part of a dedicated research group and become familiar with product development, sensory analysis, chemical and 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 billions 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 most likely will increase the risk of growth by spoilage and pathogenic microorganisms. Within the project the bio-protective potential (i.e. antimicrobial effect and absence of spoilage activity) of microorganisms (e.g. lactic acid bacteria) previously isolated from seafood is screened. For the most promising isolates the bio-protective effect is examined against relevant pathogens (*Listeria monocytogenes* and *Clostridium botulinum*) in experiments with salt-reduced seafood products. Based on the obtained results, the performance of existing predictive models for e.g. lactic acid bacteria and pathogens will be evaluated and if necessary expanded/adjusted to be useful for bio-protective cultures.

### University and Supervisors

Technical University of Denmark  
Ole Mejlholm, Senior scientist, [olme@food.dtu.dk](mailto:olme@food.dtu.dk), +45 45 25 25 67 and  
Paw Dalgaard, Professor, [pada@food.dtu.dk](mailto:pada@food.dtu.dk), +45 45252566  
Division of Industrial Food Research  
National Food Institute (DTU Food)  
Søltofts Plads, Building 221  
2800 Kgs. Lyngby

### Industry collaboration

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