

### **ifood** – Centre for INNOVATIVE FOOD RESEARCH





**iFOOD** CENTRE FOR INNOVATIVE FOOD RESEARCH



**AARHUS UNIVERSITY** 

The human population continues to grow. At present, the world population grows with approximately 83,000,000 people a year, corresponding to a new Germany every year and is expected to reach almost 10 billion people by the middle of this century.

More food needs to be produced for an increasing and wealthier population, and under conditions of markedly changing climate conditions. This results in an increased global demand for food produced in a sustainable way. Combined with this, there are significant challenges linked to lifestyle related food choices and the impact of food choice on the health and wellbeing of consumers. Todays consumers are confused on what is healthy and there is an increasing distrust on hidden ingredients, the impact of processing on food quality and nutrition, and the nutritional value of foods.

We need more knowledge relating to new innovative production systems for raw quality material, preservation of freshness and nutritional content, as well as minimal processing technologies, and to provide new convenience food solutions, both for final food choices as well as semi-processed solutions.

It is iFOODs mission to develop and carry out excellent research, innovation, and talent development to deliver novel, sustainable food production systems and convenient food with optimal nutritional value and quality by delivering gentle processing and novel packaging solutions.

# The global The industry challenge challenge

The Danish Food sector has a strong international brand for delivering quality and trustworthy foods, but it needs to maintain this brand, while expanding its export strength in existing and emerging markets, Danish food producers need to deliver novel solutions in adequate shelf life, timely delivery, high trustworthiness, sustainability, authenticity as well as a range of organic foods that are minimally processed to meet the increasing food lifestyle trends; health and convenience products. The Danish food industry needs to deliver differentiated and high-value foods and products, that will secure a premium position, enable increased income, and that will underpin their brands, whilst meeting the increasing convenience and healthy needs of consumers in a sustainable setting.

In order to address these complex challenges AU will bring together existing but diverse capability, aligned to several AU Departments and across Faculties; capabilities that span excellent basic to applied research capabilities, with social sciences to technology based approaches, both specialised in and non-specialised in food research.

Through the Centre this capability will be focussed on taking interdisciplinary initiatives to provide innovative solutions to these key challenges, including strategic recruitment of complementary competencies within areas of vital importance, which is not present or present at the level of excellence needed to take a national leading and international prominent position in the area.



## **Research** in iFOOD

iFood will build up new knowledge and technologies that will underpin the development of natural and nutritional innovative foods (both home and out-of-home contexts) through five key platforms involving key staff across the University.

Developing new innovative production systems of raw materials including organic crops across the food chain.

Platform coordinator John E. Hermansen, Department of Agroecology (AGRO)

INNOVATIVE **PRODUCTION OF RAW MATERIALS** 

#1

PROCESSING SOLUTIONS

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#2

Developing, implementing, and testing new, minimal processing technologies at laboratory level, pilot scale and under upscaling conditions for both plant and animal-based foods.

Platform coordinator Lotte Bach Larsen. Department of Food Science (FOOD)

Test, develop, and validate new packaging solutions and their interaction with food products to ensure sustainability, maximum quality, extend shelf-life and reduce food

#3

### PACKAGING SOLUTIONS

**NEW FOOD** 

SOLUTIONS AND THEIR VALIDATION

Explore and validate the impact of processing, packaging, and ingredients to ensure nutritional contents, whilst integrating consumers' choices for new, innovative food solutions and products

Platform coordinator Derek V. Byrne, Department of Food Science (FOOD)

#5

SENSORY AND CONSUMER VALIDATION

Determine and validate natural solutions to replace hidden food additives to maximize shelf life and nutritional attributes of innovative foods.

Platform coordinator Knud Erik Bach Knudsen, Department of Animal Science (ANIS)

### **AU Involvement**

iFOOD includes several AU Departments and Centres, including Department of Food Science (FOOD), Department of Animal Science (ANIS), Department of Agroecology (AGRO), Department of Engineering (ENG), Department of Molecular Biology and Genetics (MBG), Department of Chemistry (CHEM), The Interdisciplinary Nanoscience Center (iNANO), The MAPP Centre at Aarhus Business and Social Sciences, Department of Clinical Medicine and Department of Public Health (HEALTH)

### Industrial Collaboration

Companies and organisations within the food sector are important partners in iFOOD. This includes both producers, food companies and industry, as well as retail.

Some of the current collaborators within the food area include KMC, Chr. Hansen, Arla Foods Ingredients, Arla Foods amba, Novozymes, Palsgaard, Landbrug & Fødevarer, Danish Crown, Rynkeby, Carlsberg, Firmanich, Marel, Danish Food Cluster, Danish Food Network, Novozymes, DLG Food oils, DuPont, Lantmännen, AAK, FOSS, Alfa Laval to name a few and we wish to strenghten and extend the industrial collaborations through this Centre.



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### **Contact information**

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