Call for Expressions of Interest

Technology; Food Safety; Health & Nutrition

The Danish Dairy Research Foundation calls for Expressions of Interest for research projects within Technology, Food Safety, and Health & Nutrition, with an application deadline on **Thursday, 30 November 2023, at 23:59 hours. Please use the application forms.**

Photos: Niels Åge Skovbo

The Danish Dairy Research Foundation (DDRF) supports basic dairy research with a clear application potential, cf. the Foundation's Strategy 2026. There is a specific desire for interdisciplinary collaboration projects across different research groups – both national and international, as new knowledge and understanding of correlations often arise in the crossfield between professional disciplines. Interdisciplinary research and research that takes value chain considerations into account are thus given top priority. Sustainability and climate remain key areas for the dairy industry, and the Board would therefore like to see these aspects included in the projects, if relevant. This could, e.g., be the effects of a more sustainable diet, circular economy (e.g., raw materials and water), shelf life-extending cultures, and processes using less energy. Data science is also an area that the Board would like to see included in the project proposals. In addition, cooperation with dairies and/or downstream industries (cultures, ingredients, equipment, and analyses) is encouraged. The Board assesses the projects based on two main criteria: a) high academic research quality and clear objectives and b) relevance to the dairy industry.

The Foundation receives Expressions of Interest throughout Strategy 2026.

Technology

It is essential to understand the molecular properties of milk constituents and the way in which they interact with other components of the food matrix during processing, storage, and at the end user.

A better understanding of how processing, packaging, and storage impact product quality and shelf life is also necessary to develop the products and dairy processes of the future. Here, fermentation and enzyme technologies are key research areas relative to being able to produce and control the quality and shelf life of dairy products, to include creating taste and texture experiences for consumers.

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Technology; Food Safety; Health & Nutrition

Data science, to include artificial intelligence, is expected to be an essential tool for both better understanding of the possibilities and rationalization of the solutions.

In a world where resources are under pressure, it is important to look at how we can produce more with less, i.e., make the best use of raw materials and resources. Thereby, we can secure sustainable value chains from raw materials to end products.

Technology – in perspective of:

- **Complete commodity utilization**, to include utilization of side streams.
- **Commodity quality**, as an effect of changes in primary production.
- **Process technologies** – such as fractionation, alternative thermal processes, recombination and extrusion, as well as packaging.
- **Shelf life,** to include stabilization of products and bio-preservation.
- **Fermentation and enzyme processes** – understanding and control of microbial metabolism and enzyme processes to achieve optimal functionality.
- **Tailor-made taste and texture.**
- **Basic understanding of food formulation**, to include pure formulations and mixed formulations (e.g., milk and plant-based).

Food Safety – in perspective of:

- **Measurement methods** (new analytical methods, online/at-line).
- **Risk assessment,** to include toxins and products at neutral pH.
- **Traceability and documentation.**
- **Microbial genetics.**
- **Preservation** – prediction of risk and shelf life.
- **Critical contaminants** (e.g., detergents and accumulation of undesirable substances formed by heating or by concentration).
- **Allergens.**
- **Use of omics technologies** to understand and document quality and food safety.

Food Safety

Danish dairy production is characterized by well-documented, high food safety standards, which are key to ensure and maintain customer and consumer trust.

Documented high food safety throughout the value chain is crucial for entering new markets and for retaining existing customers.

At the same time, new product formulations, new legislation, methods of processing, changed and longer distribution routes, as well as changing consumption patterns are constantly challenging how food safety can be maintained. Therefore, it is essential to be at the forefront of future requirements and opportunities to secure continued food safety.

Documentation through precise and validated measurement methods, traceability, and prediction of risks and shelf life are all key elements when it comes to meeting future food safety requirements.

Health & Nutrition

We need a better understanding of the role of the dairy matrix and milk ingredients relative to health and nutrition throughout life.

It is key to have a deep insight into how the milk components alone and in interaction with other food components support our nutritional needs and health, as well as prevent diseases, to include not least lifestyle diseases across the different age groups.

There is also a need for a thorough understanding of how brain function, bones, and muscles can be strengthened in order that these vital functions are maintained throughout life. Research is also needed into how we can offer

Call for Expressions of Interest

Technology; Food Safety; Health & Nutrition

nutrition tailored to the needs of the individual, so that we don't get too much or too little – regardless of where on the planet we live.

There is also a need for research into nutritionally healthy and economically and culturally acceptable diets, which simultaneously leave a minimal environmental and climate footprint.

Health & Nutrition – in perspective of:

- **Research into a sustainable, climate-friendly, and nutritious** diet.
- **Effect of the food matrix,** to include **the uptake of micronutrients and vitamins.**
- **Prevention and remedy of lifestyle diseases.**
- **Research into personalized nutrition throughout life** (bone and muscle health, cognitive maintenance, energy needs).
- **Growth** (muscles and bones) **and cognitive developments in children.**
- Influence on **satiety and weight regulation.**
- Better understanding and maintenance of **a healthy gut.**
- **Financially affordable and nutritious solutions.**

Note: Relevant clinical documentation research is given equal weight as hypothesis-driven research projects.

What types of projects are eligible for funding?

DDRF is a non-commercial foundation. DDRF initiates and coordinates basic dairy research that can contribute to a knowledge-based and sustainable Danish dairy industry that is best-in-class relative to healthy and safe products. This is done in close interaction between the dairy industry and, among others, the universities, the hospitals, and the downstream industry.

The projects are pre-competitive by nature and support research-based initiatives that can subsequently lead to innovation in the dairy companies and in this way also contribute to improving the competitiveness of the dairies.

DDRF does not support research in primary production, projects that have the character of product development, major equipment investments, and projects relating solely to the communication of research results. Projects focused on mapping is only eligible for funding if they are research-based.

Grant conditions and financing

DDRF initiates annual research projects with a total dairy foundation grant of DKK 12-15 million. This is done partly through DDRF's own resources and partly through applications to the Milk Levy Fund and the Dairy Rationalization Fund. For projects to be finally financed through the Milk Levy Fund or the Dairy Rationalization Fund, DDRF initially carries out the professional assessment, while the final decision on support takes place after the prioritized Expressions of Interest have been approved by the Milk Levy Fund/Dairy Rationalization Fund. DDRF will assist in the process. Please note that the funds will not be granted until external grants and/or contributions from participating companies and/or research institutions amount to at least 50% of the total project budget. It is the applicant's own responsibility to get the remaining co-financing in place. Co-financing may, for example, come from public and private foundations or from the participating partners in the project. If the applicant has not been able to obtain additional co-financing within approx. 18 months, DDRF is no longer obligated to support the project. However, the applicant is welcome to submit a new application in the following application rounds.

Who can apply to the Danish Dairy Research Foundation?

We welcome researchers from public or self-governing research institutes, preferably in collaboration with private companies. Before submitting the application, the applicant must secure the written consent of the management of the participating institutions and companies. In principle, the participating companies do not receive financial support from DDRF, but their time involved can be included as in-kind co-financing.

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Requirements for Expressions of Interest

To be evaluated by DDRF, the DDRF Expression of Interest forms must be used. Part 1 of the Expression of Interest is submitted as a PDF file, Part 2 is submitted as a Word document, and Part 3 as an Excel file. Instructions for completing the Expression of Interest appear on the application forms. Please note that the total Expression of Interest should not exceed 5-6 A4 pages (excluding items 6-7, part 1). The application may be in Danish or English (except for the title and summary, which must be in both Danish and English).

Application deadline of the Expressions of Interest is Thursday, 30 November 2023, at 23:59 hours.

Please mail the application to mff@lf.dk. You will receive acknowledgement of receipt of the application. Applicants will be notified of the result by February 2024.

Information and guidance

Can be obtained from the DDRF Secretariat:

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