

November 2020

The Novo Nordisk Foundation

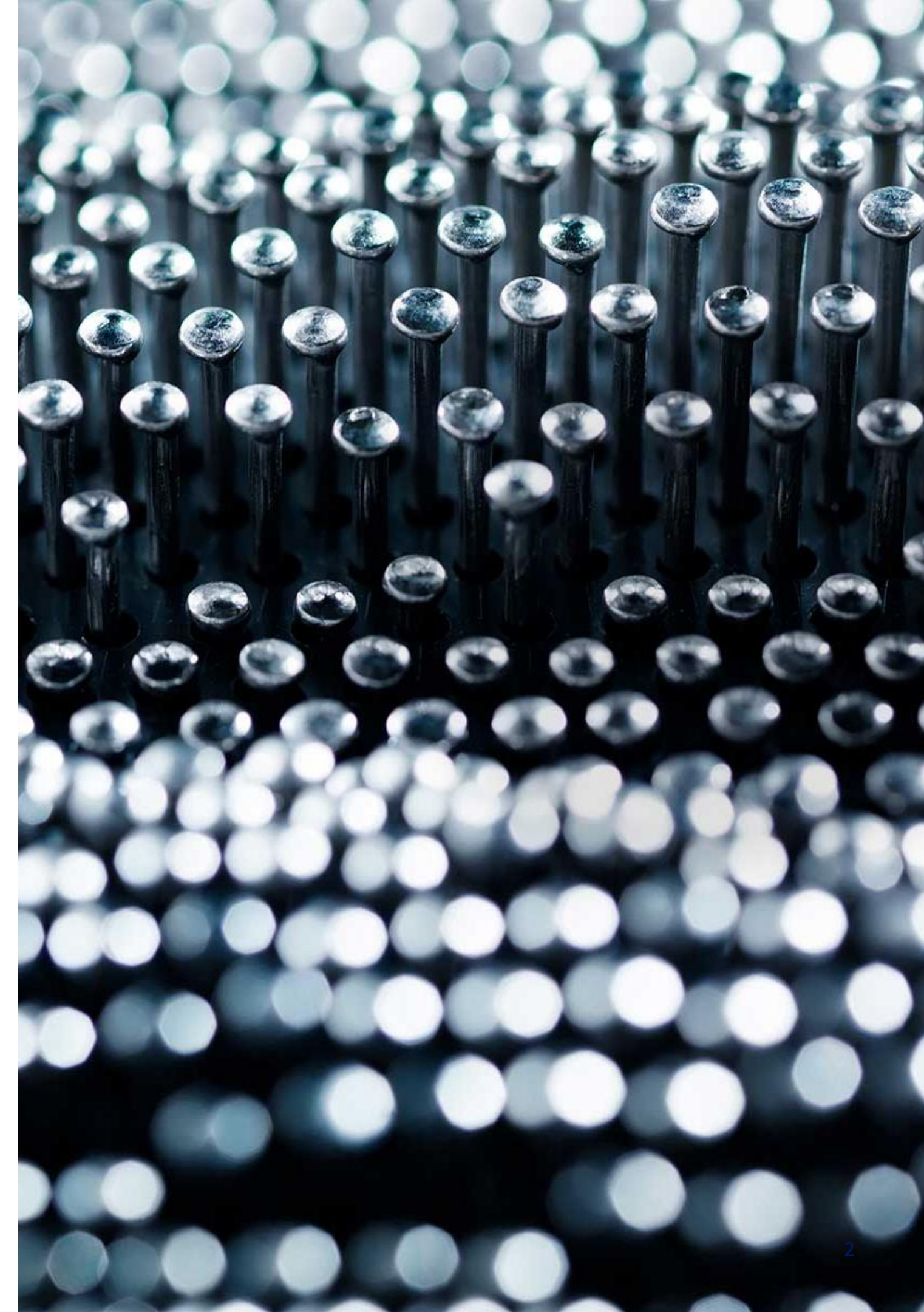
Funding opportunities within Life Science Research and Biotechnology

Agenda

1. Introduction to the Novo Nordisk Foundation and the Biotech focus areas

2. Open competition instruments in Biotech

- Postdoctoral fellowships
- Project grants
- Emerging investigator
- Ascending investigator
- Data Science Initiative
- Faculty recruitment: Young Investigator Award, Laureate Research Grants & Start Package Grants



The Biotech team



Claus Felby

Senior Vice President



Henning Jørgensen

Senior Scientific Manager

Industrial Biotechnology
Environmental Biotechnology



Sisse Marquina-
Jongberg

Scientific Manager

Food Science



Thomas de Bang

Scientific Manager

Plant Science/Agriculture



Anastassia
Khrouchtchova

Scientific Manager

Plant Science/Agriculture



Camilla Stensgaard
Andersson

Grant Specialist

The Novo Nordisk Foundation is an independent Danish enterprise foundation

*) Through Novo Holdings, the Foundation has A-shares in Novo Nordisk and Novozymes. A-shares have 10 times voting power per share

ново нордиск фонден

ново нордиск фонден

Dividends

100% SHARES

ново holdings
Investors in life science

Dividends

28.1% SHARES*
76.1% VOTES



25.5% SHARES*
72.0% VOTES



Grants

Awarded in 2019:
DKK 4.9 billion (EUR 655 million)
Paid out in 2019:
DKK 3.6 billion (EUR 483 million)

Scientific research
Diabetes treatment
Innovation
Education & outreach
Humanitarian and social causes

Investments

Investment result in 2019:
DKK 26 billion (EUR 3.5 billion)

Principal Investments
Growth Investments
Venture Investments
Seed Investments
Financial Investments

Our vision

With Denmark as its center of gravity, the Foundation's vision is to contribute significantly to research and development that improves the lives of people and the sustainability of society.



Grant-awarding focus areas and long-term objectives

Biomedical and health science research and applications



Enable people to live healthier and better lives by facilitating research that advances knowledge of human health and disease, solves health challenges and develops the health care system.

Patient-centred and research based care



Make Denmark a global leader in delivering patient-centred and research based care for people with diabetes and facilitate the development of patient-centred and research based care within diabetes co-morbidities and other endocrine disorders.

Life science research and industrial applications promoting sustainability



Act for and inspire development of a more sustainable world by supporting research that translates to life science solutions to benefit people and the environment.

Natural and technical science research and interdisciplinarity



Catalyse natural and technical science research, particularly in fields with potential interdisciplinary application to the life and health sciences and industrial biotechnology.

Education, outreach and innovation



Support general science education and cultivate scientific and technical competencies and engagement.
To benefit people, promote life science ecosystems that translate scientific discoveries into products and solutions and drive growth.

Social, humanitarian and development aid



Improve the lives and prospects of vulnerable children and young people through health, education, developing competencies and other interventions.

Life science research and industrial applications promoting sustainability – NNF Biotech

Major global challenges:

- Climate change caused by greenhouse gas emissions
- Biodiversity loss and ecosystem degeneration
- Food security and a global increase in food and biomass demand
- Water scarcity and environmental pollution



NNF Biotech supports research that contributes to solving global challenges, e.g. by:

- Substituting and/or reducing the use of fossil-based resources
- Reducing emissions and removing greenhouse gases (GHG) from the atmosphere – in agriculture, food production or industrial processes, including carbon capture and utilization/storage
- Reducing land-use for human activities and increasing the efficiency of agricultural and industrial production
- Developing solutions for a more sustainable agriculture and food supply
- Reducing the use of environmentally harmful chemicals and developing biological remediation biotechnologies

Organization of themes in NNF Biotech

NNF Biotech focus on four themes organized in two funding programs:

Industrial Biotechnology and Environmental Biotechnology

- **Industrial biotechnology** - Solve fundamental challenges within bio-based production and technologies.
- **Environmental biotechnology** - Develop biological solutions with a global impact on GHG emission, water pollution and biodiversity.

Plant science, Agriculture and Food Biotechnology

- **Plant Science and Agriculture** - Provide more productive and resilient plants by addressing challenges related to development and cultivation of plants for food.
- **Food biotechnology** - Develop sustainable and safe plant- or microbial-based food products feeding the growing population.



Industrial Biotechnology and Environmental Biotechnology

The proposed research must involve a clear element of biotechnology, have an outlook to scaling potential(s), contribute to sustainability and, if relevant, increase productivity.

The research projects should preferably include one or more of the following topics:

- Use or engineering of biological/biotechnological tools and systems for synthesis and production of valuable products (e.g., proteins/enzymes, microorganisms, chemicals, materials and energy carriers)
- Development of technologies and processes that can be utilized directly for bioproduction
- Improvement of the efficiency of biomanufacturing
- Use or engineering of biological/biotechnological tools and systems to protect or improve the environment
- Biological/biotechnological approaches to reduce emission of greenhouse gases or remove them from the atmosphere
- Understanding, protection or manipulation of natural or industrial ecosystems in relation to application of biotechnology
- Data science promoting research within industrial or environmental biotechnology, including related ecosystems research

Projects with a focus on pharmaceuticals and therapeutics should submit their application to the Novo Nordisk Foundation Committee on Bioscience and Basic Biomedicine.

Plant science, Agriculture and Food Biotechnology

The proposed research must involve a clear element of biotechnology, have an outlook to scaling potential(s) while contributing to productivity and sustainability.

The research projects should preferably include one or more of the following topics:

- Plants with increased productivity, resiliency and/or nutritional content
- Development of plants for food, materials, chemicals and fuels
- Biological approaches to reduce greenhouse gases from agriculture
- Biological approaches supporting productivity and resiliency of agricultural production
- Fundamental research within sustainable foods and food processing
- Functionality and the associated structures of food components
- Data science promoting research within plant science, agriculture and food biotechnology

The program does not support:

- Research focusing on livestock, livestock commodities and feed.
- Research with a main component within nutritional uptake and metabolic effects of specific foods.

Projects with a focus on pharmaceuticals and therapeutics should submit their application to the Novo Nordisk Foundation Committee on Bioscience and Basic Biomedicine.

Annual open competition calls within PAF and IEB

- Postdoctoral fellowships (up to 3 yr and DKK 2.5 mio)
- Project grants (up to 3 yr and DKK 4 mio)
- Emerging Investigator (up to 5 yr and DKK 10 mio)
- Ascending Investigator (up to 5 yr and DKK 10 mio)

Open for applicants from Nordic countries (Denmark, Norway, Sweden, Finland and Iceland)



DEADLINE in August

DEADLINE January 6th

Emerging Investigator (PAF + IEB)

Purpose

To support excellent scientists to establish their own research group within the PAF and IEB areas in the Nordics.

Funding

- Up to DKK 10 mio over a 5-year grant period
- Salary for main applicant and other employees
- All direct project costs (lab, travels, publication, equipment, admin, etc.)
- NNF does not support overhead

Eligibility

Researcher with an independent research program/profile (senior postdoc, assist. professor or new assoc. professor).

Applicant may apply from outside the Nordics or from industry to start a research group at a university or non-profit research institution.

Emerging Investigator Profile

- Emerging Investigators are talented researchers, typically at the senior postdoc or assistant professor level (ph.d.-age 4-8 years).
- The researcher should have matured to a point where the next obvious step is to start an independent research group, or further strengthen a newly started group.
- Applicants should have a strong track record within their field of research relative to their career stage, which will typically include primary or senior authorships on high-impact research publications, patents or technology developments.
- Applicants should have a clear goal and strong motivation for starting their own independent research group, or further strengthening their newly started research group.

Assessment criteria

Independence and research leadership potential of the applicant constitutes important assessment criteria. As such, both 'Project' and 'Person' will be considered in the assessment.

Research idea, feasibility, novelty impact, originality etc.

Ascending Investigator (PAF + IEB)

Purpose

To support the development and consolidation of excellent research leaders within the PAF and IEB areas in the Nordics

Funding

- Up to DKK 10 mio over a 5-year grant period
- Salary for main applicant and other employees
- All direct project costs (lab, travels, publication, equipment, admin, etc.)
- NNF does not support overhead

Eligibility

Researchers with an independent research program at a university or other non-profit research institution in the Nordics (assist. professor, assoc. professor, senior researcher).

Professors cannot apply.

Ascending Investigator Profile

- Ascending Investigator are excellent established research group leaders at the associate professor or senior assistant professor level (ph.d.-age 7-15 years).
- They have the potential to rise to the highest international level.
- Applicants should have a strong track record within their field of research relative to their career stage, including senior authorships on high-impact research papers, documented research leadership experience, contributions to relevant scientific communities, important method and technology developments.
- Applicants should have a clear goal and strong motivation for starting their own independent research group, or further strengthening their newly started research group.

Assessment criteria

Independence and research leadership experience of the applicant constitutes important assessment criteria. As such, both 'Project' and 'Person' will be considered in the assessment.

Research idea, feasibility, novelty impact, originality etc.

Other calls of relevance to the PAF and IEB areas

- Young Investigator Award (7 years and DKK 25 mio) – Independent research leader < 7 years
- Laureate Research Grants (7 years and DKK 50 mio) – Independent research leader > 7 years
- Start Package Grants (4 rounds per year) - recruitment from abroad, other DK universities or industry
- Data Science Initiative (deadline in January)

Deadline ultimo October

International
recruitment



The NNF Data Science Initiative – activities in 2021

MOTIVATION

Access to skilled data science resources is key to future growth and excellence across the Danish research- and innovation environments, healthcare sector, and life science industry.

PURPOSE

- Support Data Science research and education in Denmark
- Increased educational output of candidates
- University faculty retained in academia
- Recruitment of foreign talent to Denmark



Collaborative Research

DKK 60 million in 2021

Grants for collaborative projects involving data science within the Foundation's strategic focus areas.

Grant budget:

- Up to 25 million DKK over 5 years
- Consortia with up to 4 departments / institutions

Call opens December 2020 with application deadline in March 2021



Research Infrastructure

DKK 40 million in 2021

'Packages' of funding for shared computers, hardware, personnel (staff positions), data collection, curation, and management.

Grant budget:

5-15 million DKK over 5 years

Call opens December 2020 with application deadline in May 2021



Investigator Grants

DKK 60 million in 2021

Support of excellent independent data science group leaders at different career stages

- Emerging (Assistant prof level)
- Ascending (Associate prof level)
- Distinguished (Full prof level)

Grant budget:

Up to 10 million DKK over 5 years

Call opens December 2020 with application deadline in March 2021



Data Science Academy

Announced 2021, budget TBD

A national network within data science is being explored to further strengthen collaboration and knowledge sharing

Activities:

- Educational courses and training
- Symposia and networking events
- PhD & post-doc scholarships
- Visiting Professorships
- Vocational training

NNF Data Science Initiative – Research themes

The Data Science Initiative supports

- **Development of new algorithms, methods and technologies** within data science, artificial intelligence (incl. machine learning and deep learning), data engineering, data mining, statistics, applied math, computer science, big data analytics, etc.
- For such projects, it is important that the applicants argue convincingly for **potential application and impact within life sciences and/or biotechnology**.
- **Applications of data science within the Foundation's core scientific areas**
 - Such projects must describe and explain the **novelty and impact of their data science approach**, be it development of novel methods or novel applications of existing methods.

Projects where the primary focus is on financial or insurance data, fraud detection, advertisement, social media, social science or humanities, security and mass surveillance, defence, gaming, etc. are considered outside of scope and will not be considered for funding, unless the applicants can convincingly argue for relevance and potential impact within the Foundations scientific focus areas.

NNF core scientific areas

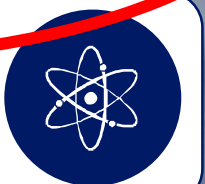
Biomedical and health science



Life science and industrial applications promoting sustainability



Natural and technical science research and interdisciplinarity



Open competition calls

novonordiskfonden.dk/en/grants/

The screenshot displays the 'Grants in open competition' page. It features a navigation bar with the logo, language options (DA, EN), a search icon, and a menu. The main heading is 'Grants in open competition', followed by a sub-heading 'Open and upcoming calls for applications'. Three call cards are shown, each with details on area, place of research, amount, and call dates. A 'Funding finder' sidebar on the right includes a search filter and buttons for 'What do we not support?' and 'Unsolicited inquiries'. A cookie consent banner is visible at the bottom.

Call opens	Deadline
February 24 2020	May 18 2020, 2pm (CEST)
March 11 2020	June 04 2020, 2pm CEST
March 18 2020	June 04 2020, 2 pm (CET)



You are **strongly** encouraged to:

- 1) Read the Guidelines for Applicants for detailed information!
- 2) Give us a call if you have questions to our programmes

Good advise

- Read the Guidelines for Applicants carefully
- Consider the grant criteria - is it a personal grant or a collaborative grant?
- Clearly explain why the proposed research is relevant for PAF or IEB, and for the particular call.
- Write to your audience – the IEB and PAF committees (do not contact the committee members!)
- Avoid abbreviations and do not presume that the committee will automatically get your idea wrt impact, novelty and research flow.
- Bring forward knowledge gaps and testable hypotheses – how does the proposed research address the knowledge gaps?
- These grants are personal – underline your motivation and ambition for obtaining an investigator grant
- Avoid preparing a superficial budget
- Give us a call if you have questions to our programmes



Thank you!

If you have any questions, please contact:

Henning Jørgensen

hej@novo.dk



Sisse Marquina-Jongberg

smj@novo.dk



Thomas de Bang

tdb@novo.dk



novo nordisk fonden

