EMERGING INVESTIGATOR 2021

INDUSTRIAL BIOTECHNOLOGY AND

ENVIRONMENTAL BIOTECHNOLOGY

Nordic countries

Information and guidelines for applicants

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Information about the call

Grant capital:
DKK 30 million

Award amount
Up to DKK 10 million per grant

Application form opens:
November 2, 2020

Application deadline:
January 6, 2021 at 2 pm

Interview:
March 25, 2021 (upon invitation)

Applicant notification:
April, 2021

Earliest start date:
May 1, 2021

Latest start date:
April 1, 2022

Review committee:
Committee on Industrial Biotechnology and Environmental Biotechnology

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1 EMERGING INVESTIGATOR 2021
INDUSTRIAL BIOTECHNOLOGY AND ENVIRONMENTAL BIOTECHNOLOGY

Please read these guidelines carefully before initiating the application process, as they contain the complete call text as well as instructions for preparing and submitting the application:

- **Section 1** describes the overall frame and conditions of the call, eligibility criteria and evaluation process.
- **Section 2** provides technical guidance for how to access and navigate in the application and grant management system NORMA.
- **Section 3** gives essential information regarding the application content, structure and budget.

NNF will treat all applicant and application information confidentially.

Furthermore, please read 'General Terms and Conditions' for grants from NNF that all Grant Recipients must comply with: http://www.novonordiskfonden.dk/en/content/conditions-grants

1.1 PURPOSE

With this call for applications, the NNF seeks to support upcoming and highly promising research leaders within industrial biotechnology and environmental biotechnology in the Nordic countries. The intention of the Emerging Investigator grant is to enable excellent scientists to establish their own research group or to further strengthen their recently started group.

The proposed research should address major challenges within industrial biotechnology or environmental biotechnology with a clear and strategic outlook to improve sustainability and provide high-impact solutions at a large scale.

The Research Leader Programme
To support the best and most talented research leaders at all career stages, from senior postdocs wanting to start their own independent research group to established senior principal investigators, the NNF offers three different grants under the Research Leader Programme: Emerging, Ascending and Distinguished Investigators.

Please note that only the Emerging and Ascending Investigator grants are open within Industrial Biotechnology and Environmental Biotechnology.

The Emerging Investigator profile
The Emerging Investigator grant is for talented researchers typically at the senior postdoc or assistant professor level. The grant is intended for researchers who have matured to a point where they are ready to start their own independent research group, or existing group leaders in the early phase of starting their group. See further details under the section 'Eligibility'.

1.2   AREAS OF SUPPORT

The proposed research must address major challenges within industrial biotechnology or environmental biotechnology. The research should be fundamental in character, but have a strategic outlook to provide solutions that promote productivity and sustainability at a large scale. The proposed research must involve a clear element of biotechnology (see box below). One or more of the following topics should preferably be included in the research:

- Use or engineering of biological/biotechnological tools and systems for synthesis and production of valuable products (e.g., chemicals, proteins and materials)
- 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
- Understanding, protection or manipulation of natural or industrial ecosystems related 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.

> IMPORTANT! For the biotechnology requirement, the OECD short definition of biotechnology will be used as a reference for assessments. The OECD single definition of biotechnology is: the application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services.
>
> Essentially, any chemical or physical modification of a biological entity or product is considered biotechnology within this call.

1.3   ELIGIBILITY

The following criteria apply to the Emerging Investigator grants.

Career stage

The applicant must at the time of application be at the level of senior postdoc, senior researcher, assistant professor, or newly employed associate professor (or any level equivalent to one of these positions). Ideally, applicants should have 4-8 years of research experience after having received their PhD degree (leave of absence not included).

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, contributions to key conferences in the field, important technology developments etc.

Applicants who are already established independent group leaders with more than two years of group leader experience are only exceptionally considered `Emerging Investigators´. Instead they would typically fit into the ´Ascending Investigator´ category.

Applicants who, at the time of application, have already secured a `starting grant´ with similar scope (e.g. Villum Young Investigator, DFF – Sapere Aude, ERC starting grant, etc.) are only considered eligible if they in the application can argue how management of two large and clearly non-overlapping projects is feasible.

Importantly, applicants should have a clear goal and strong motivation for starting their own independent research group, or further strengthening their newly started research group.

Place of employment and institutional anchoring

The project must be based at a university or other non-profit research institution in a Nordic country (Denmark, Finland, Iceland, Norway or Sweden). This host institution administrates the grant.

During the grant period, the grant recipient and the associated group members must be employed at the administrating host institution.

A hosting letter signed by the head of department/institute must be provided. The letter should confirm that the host institution will provide the required infrastructure, laboratory and office facilities, as well as administration of the grant.

The grant cannot be used to cover teaching substitutes. Grant recipients must contribute to the teaching environment at the host institution in the ways, and at the levels, that are required or expected for the grant recipient´s position there.

Important restrictions

Important restrictions regarding NNF grants and proposals:
- Applicants may submit only one application per call.
- The present call is for the grant type `Investigator´ that includes Emerging Investigator, Ascending Investigator, Distinguished Investigator, the NERD programme, NNF Young Investigator, NNF Laurate Research grants and the annually reoccurring Data Science Investigator calls under the Foundation's Data Science Initiative, running in 2020-2022. If an applicant submits more than one application to these calls within the same year, only the first application submitted will be evaluated, while the subsequent applications will receive administrative rejections.
- It is not possible to hold more than one active Investigator grant. Applicants with an active Investigator grant can only apply for a new Investigator grant in the final year of the project, however, the grant periods cannot overlap.

1.4   FUNDING

A total of DKK 30 million is available for grants of up to DKK 10 million for projects lasting up to five years.

Applicants may apply for funding for the following overall types of expenses when directly related to the project (see section 3.3 for details on conditions and requirements):

- Salary for the applicant
- Salary for employees
- PhD tuition fee
- Operating expenses
- Bench fee
- Equipment
- Conferences participation

- Travel
- Publication costs
- Direct administrative expenses

NNF will not award funding for:
- Commercial activities
- Overhead
- Double funding of projects:
    - If the applicant has received funding for parts of the project from other sources, in part or in full, this must be accounted for in the budget, as no budgetary overlaps are allowed.
    - If an identical or overlapping project proposal has been submitted to other funding institutions than the NNF, it must be noted under `supplementary information´.
    - If the applicant, after submission of the NNF application, receives funding for the project or parts of the applied project from others, NNF must be contacted as soon as possible.

⚠️ The grant may not be used to cover commercial activities or `overhead' (i.e. rent, electricity, water, maintenance, office space, access to scientific litterature etc.)

1.5   APPLICATION PROCESS

The application must be completed and submitted using NNF's online application and grant management system, NORMA, which can be accessed from: https://norma.novonordiskfonden.dk. Further information on how to access and navigate in NORMA can be found in chapter 2.

Applicants must be prepared to participate in an interview with the Committee on March 25, 2021. The interview may be either held online or at the NNF in Hellerup, Denmark. Applicants invited for interview will be notified on February 19, 2021.

November 2, 2020	January & February	April
Call opens	Evaluation of applications	Applicant notification

January 6, 2021	March 25, 2021	May 1, 2021
Application deadline	Interview (selected applicants)	Earliest possible start date

When all applications have been assessed, applicants will be notified about whether or not they have been awarded a grant. The notification e-mail will be sent from noreply@norma.novonordiskfonden.dk to the e-mail address entered on initial registration.

⚠️ NNF does not provide feedback in case an application is not selected for funding.

1.6 LANGUAGE

The application and any additional uploads must be written in English.

1.7 ASSESSMENT CRITERIA

NNF's Committee on Industrial Biotechnology and Environmental Biotechnology will evaluate the applications.

Primary assessment criteria:
- Novelty and originality of the research idea
- Potential impact on the research areas mentioned in Section 1.2
- Feasibility of the proposed research
- Independence and research leadership potential of the applicant
- Mobility and international experience, as well as engagement in the research community

Emerging Investigator grants are individual grants awarded to excellent junior researchers with original and ambitious projects, to help them start their own independent research group. Hence, independence and research leadership potential of the applicant constitutes important assessment criteria. As such, both `Project´ and `Person´ will be considered in the assessment.

The applicant, as the principal investigator of the proposed project, should during the project act independently from more senior researchers at the host institution where the project and the applicant is based. If the project involves collaboration with other groups or independent investigators, the applicant must clearly demonstrate ownership of the project. The nature of collaboration, including roles and responsibilities, should be well described in the application.

Other grants from NNF

If the applicant has an active grant from NNF, this may be taken into consideration in the evaluation of your application for a new grant. In general, it is recommended that the Grant Recipient has delivered results on the active grant(s) before submission of a new application to NNF. If you apply, while having an active grant from NNF, you must describe how the project you propose in this application is different from and/or coherent with the project(s) already funded and briefly describe the progress of the already funded project(s). The above information should be entered under the PREVIOUS AND CURRENT GRANS FROM NNF tab.

2   THE APPLICATION AND GRANT MANAGEMENT SYSTEM – NORMA

Sections 2 and 3 provide guidance on completing and submitting an application through NNF's online application and grant management system NORMA. Section 2 contains general technical information, while section 3 contains information specific to the individual call. All the fields of the application form must be completed in accordance with these guidelines and the instructions in NORMA.

2.1   USER REGISTRATION

NORMA can be accessed through links on NNF's website or directly at:
https://norma.novonordiskfonden.dk

Before you begin, please read the instructions on the login page.

If you do not have a user profile in NORMA, you can register by clicking on REGISTER AS APPLICANT. You will be asked to fill in a contact form, which will appear in a new window. The main applicant should only have one user profile. Use your work e-mail address for registration. After the registration, you will receive an e-mail with your user name and password. You can now log in to NORMA. When you log in for the first time, you will be asked to change your password.

Applicants who have previously applied for a grant from NNF or have an active grant may already have a user profile in NORMA. If you are in doubt, an existing user profile can be retrieved by clicking FORGOT PASSWORD and entering an e-mail address. If you have a user profile in the system, you will receive an e-mail with login information and a new password within 5–10 minutes.

A registered user who submits an application is legally responsible for the truthfulness of the content of the application.

If you experience technical problems, please contact NORMA Support: norma-support@novo.dk.

> ⚠ An applicant cannot change the e-mail address provided at registration. Please contact NORMA Support if you need to change your e-mail address.

2.2   CREATING AN APPLICATION

To initiate a new application, you first need to identify the call and grant you wish to apply for. In NORMA, go to the OPEN CALLS tab, which is located in the upper right corner of the screen. All currently available grants are visible in tabs that are sorted by NNF's overall grant areas.

Initiate an application by clicking the blue APPLY NOW button. Your draft application is then created and will remain a draft version until you actively submit the application.

You can create and subsequently edit a draft version of the application until the deadline. A draft application can be saved by clicking SAVE DRAFT and may be cancelled at any time up to the deadline by clicking the button CANCEL APPLICATION. An application is not submitted to NNF until an applicant has clicked SUBMIT.

The application comprises tabbed sheets that need to be completed but not necessarily in chronological order. Fields marked with a red star (*) are obligatory to fill in.

You can review the application at any time by clicking OPEN under MY APPLICATIONS on the NORMA front page. The whole application, including any currently entered data, can be downloaded as a PDF file by clicking on APPLICATION PDF. Make sure the PDF is readable and formatted appropriately before submitting your application.

2.3   TEXT AND ILLUSTRATIONS

FILLING IN THE FIELDS
For all applications, the individual fields must be completed in accordance with these guidelines and the instructions supplied in NORMA.

> ⚠ To prevent loss of data, it is essential to press SAVE DRAFT before you leave NORMA or navigate in the system.

APPLICATION TEXTS
Text from Word, for example, can be copied and pasted into most text fields of the application. It is, however, important to check that formatting, special letters and symbols have not been converted or lost in the text fields after copying and pasting. If the formatting looks wrong in NORMA and in the PDF, you can try to change all text to "Normal" under the tab FORMAT.

The available functions for formatting text are at the top of the text fields. Some shorter text fields do not have the option to format.

> ⚠ For readability purposes, standard fonts, font size 11-12, and line spacing between 1.0 and 1.5 must be used.

ILLUSTRATIONS
Illustrations with figures, charts, tables, images etc. related to the project description can be uploaded under PROJECT INFORMATION (a maximum of four illustrations are allowed). Include the illustration number and a legend or caption for each illustration file when uploading. The illustrations will be integrated in the final application PDF.

The following file formats for illustrations are accepted in the system: JPG, JPEG, PNG and BMP. The maximum accepted size for each illustration is 1050*1650 pixels.

2.4 SUBMITTING THE APPLICATION

The application in its entirety must be submitted electronically via the application system by clicking SUBMIT. It is not possible to submit an application or any part of it by standard mail or e-mail. Any material submitted outside the application system will not be included in the evaluation and will not be returned.

All applicants must read and accept NNF's Standards for Good Research Practice before submitting the application. A link can be found under "Policies" in the top right corner of the window. Further, the applicant must declare that the information provided in the application is true and accurate.

An application cannot be submitted unless all the required fields have been completed. Fields in the application that are incorrectly completed or incomplete will be listed in a box at the top of the screen. Clicking on each individual line marked in red takes you directly to the incomplete field. The box will disappear when you select SAVE DRAFT. This allows you to continue with the application and submission.

> ⚠️ A list of any incorrect or incomplete entries will be autogenerated when you click SUBMIT. Amending incorrect or incomplete entries can be time-consuming, so we recommend submitting applications well before the deadline.

If you wish to modify a submitted application before the deadline, it is possible to reopen the application. Be aware that the application must be resubmitted before the deadline. Applications cannot be modified after the submission deadline.

Once the application has been submitted, a confirmation of receipt will be sent to the e-mail address used for logging into the system. If you do not receive a confirmation of receipt (please check your spam folder), you should contact NNF as soon as possible using the contact details on page 3.

If you wish to withdraw a submitted application after the deadline, you must contact NNF via e-mail, using the contact information on page 3.

> ⚠️ Please remember to check that the PDF version of the application is legible and contains all entered information and uploads before submitting the application.

3   APPLICATION CONTENT

This section provides guidelines on the content required in the sections of the online application form for this call, as well as essential information regarding the project description, structure and budget.

3.1   APPLICANT INFORMATION

Enter information on the main applicant and administrating institution in the following tabbed sheets:
- Personal information.
- Current institution.
- Educational information.
- Administrating institution.

Applicant information

CV (4,000 characters):
- Education.
- Employment history.
- Research funding.
- A short bibliographic overview summarizing total number of peer-reviewed publications, number of first authorships and corresponding authorships, number of citations, development in citations per year and H-index.
- International experience also including shorter research stays.
- Substantial findings and contributions to science, society, technology and innovation (incl. patents).
- Other relevant information, e.g. contribution to teaching.

Publications (5,000 characters)
Applicants should include a link to an updated profile with a full publication list, e.g. Google Scholar, ORCHID, Web of Science or Scopus. Below that, list the 10 most relevant publications for evaluating your merits. Please include all authors (or number of authors on publications with more than 10 authors) and highlight your own name. Please also provide the 5-year impact factor for the individual journals.

Summary of own research (2,000 characters)
Please provide a summary of your research achievements and describe how you expect your research will contribute to solve major challenges within industrial biotechnology or environmental biotechnology with a strategic outlook to improve sustainability and provide high-impact solutions at a large scale.

Supplementary information (2,000 characters)
This field can be used to provide additional information that is important for the committee´s evaluation of your application, e.g. leave of absences, employment situation, possible considerations regarding your fit with the `investigator´ profile, teaching obligations, other project obligations.

⚠ Registering a new administrating institution in NORMA can take up two working days. The application can be edited but cannot be submitted before this information is registered. We therefore recommend that you register an administrating institution in good time.

3.2 PROJECT INFORMATION

Enter a description of the project under the PROJECT INFORMATION tab.

Grant period

After you enter the start and end dates for the grant, NORMA generates a grant period in whole years. The grant period is the duration of NNF's grant for the project.

Project title (150 characters)

Please provide a short title for the project.

Brief project description (2,000 characters)

Please provide a brief stand-alone summary of the project including the major challenge and knowledge gaps being addressed, overall purpose and expected outcomes.

Project description (30,000 characters)

The applicant is free to choose any preferred structure for the project description. The following elements should be included:

- Major challenge being addressed and strategic outlook. How does the proposed research help to provide solutions improving productivity, enabling sustainable industrial production or environmental improvements?
- Critical knowledge gaps and identification of important research questions.
- Specific aims, testable hypotheses and success criteria.
- Scientific background covering state-of-the art most relevant to the project.
- Experimental plan including methods and technologies to be utilized and/or developed.
- Alternative approaches, risk assessment and contingency plans.
- Discussion of experimental outcomes and potential impact.
- Motivation for becoming a research group leader.

Illustration uploads

It is possible to upload a maximum of four files to support the evaluation of the proposal (images, figures, tables, etc.). See Section 2.3 for more details. **Do not upload your CV (see Section 3.1.1), Hosting letter or Letter of confirmation here (see Section 3.4).**

Literature references (4,000 characters)

Please provide the reference information for the literature cited in the project description.

Lay project description (1,000 characters)

Please provide a brief summary for non-experts in lay language. If the application is awarded a grant, the text may be used for publication.

> ⚠ Please note that the application should address all the assessment criteria listed in Section 1.7.

3.3 BUDGET

The budget only comprises the information entered in the BUDGET tab. Additional budget information attached under UPLOADS or added under other tabs than BUDGET will not be considered.

The way in which the budget is set up influences any later financial reporting to NNF. Please note that any later financial accounts must have the same headings as the budget posts in the original application.

Before you begin to fill in the budget template, enter GRANT PERIOD START DATE and GRANT PERIOD END DATE under the PROJECT INFORMATION tab and press SAVE DRAFT. The budget must be entered in budget years following the grant period and not calendar years.

Complete the budget as follows:
- Click on the blue OPEN/EDIT icon to open a budget in a pop-up window.
- Click the + key to add budget rows.
- Select one of the budget headings, enter an amount under VALUE (DKK) and specify what the amount is for under DESCRIPTION.
- All amounts must be stated in Danish kroner (DKK) without decimal points, commas or spaces. NORMA automatically inserts the thousands separator.
- Save and close the budget spreadsheet by clicking SAVE and CLOSE (in that order) and then return to the BUDGET tab.

Important: If you make any changes to the grant period after filling out the budget, you must clear the budget table before making the change to the grant period.

Applicants may apply for funding for the following types of expenses when directly related to the project:
- **Salary** for the applicant for all or part of the project period in case the applicant is not tenured or guaranteed her or his own salary.
- **Salary for employees**, e.g. PhD students, postdoc and/or for research or technical assistance. Salary for employees can only be applied for if they are employed at a lower job structure/salary level than the applicant.
- **PhD tuition fee** up to DKK 80.000 per student per budget year (must be included separately).
- **Operating expenses** such as lab consumables, chemicals and reagents, computing resources or software, sequencing/omics-analyses and other chemical analysis directly associated with the project.
- **Equipment** required for the project. The costs may not exceed 20% of the total budget.
- **Conference participation** up to DKK 50.000 per budget year.
- **Travel** expenses directly related to the project, for example, to perform experiments or analysis in another lab for a limited period. Up to DKK 30.000 per budget year.
- **Publication costs** of results originating from the research project, up to DKK 25.000 per year.
- **Bench fee.** To include a bench fee in the budget, the fee must be part of the general expense policy at the department/section/institute and apply to all employees for which the policy concerns. Bench fees may only be used for operating expenses, lab consumables, and access to laboratory space and facilities that cannot be included within another individual budget category. It must be specified what is included in the bench fee, the price per month and how many months per year the bench fee covers.
- **Administrative support** up to 5% of the total budget (must be included separately):
  - can cover expenses such as for accounting, payment of salaries, purchasing, hiring, as well as auditing and financial reporting on the project.
  - cannot cover administrative expenses that are not directly related to the project.
  - is not automatically included in the grant and must be stated/applied for in the application budget but should not be specified in detail.

Any comments about the budget can be entered in the SUPPLEMENTARY INFORMATION field.

Funding, both received and applied for, from the applicant's own organisation and from other sources should be entered under ADDITIONAL CONTRIBUTIONS FOR THE PROJECT. The amount entered should be the total sum for the entire grant period. The NNF does not allow double funding and there can be no budgetary overlaps between projects. The INFORMATION FOR ADDITIONAL CONTRIBUTIONS field must clearly describe what the additional contributions cover and how the project proposed in this application is different from the project already funded or applied for from other parties than NNF. If the applicant, after submitting the application, receives funding for the project or parts of the applied project from others, the NNF must be contacted as soon as possible.

⚠️ Applicants may only apply for the types of expenses listed in Section 1.4.

3.4   UPLOADS
Only the following **mandatory upload** will be considered in the assessment:
- A hosting letter signed by the head of department/institute must be provided. The letter should confirm that the host institution will provide the required infrastructure, laboratory and office facilities, as well as administration of the grant.

All uploads must be in PDF format. NORMA automatically places these uploads at the end of the application.

3.5   PREVIOUS AND CURRENT GRANTS FROM THE FOUNDATION
If you have received any grants from NNF as an applicant or a co-applicant within the past five years, you must provide the application number, project title, grant period (in years), grant amount and the percentage share of the grant (100% if there is no co-applicant). Briefly summarize how any of the grants are related to the current application.

If you have previously submitted other applications to NNF in the same calendar year, summarize how these applications are related to the current application.

October 2020

The Novo Nordisk Foundation

The Novo Nordisk Foundation is an independent Danish Foundation with corporate interests. The objective of the Novo Nordisk Foundation is twofold: To provide a stable basis for the commercial and research activities conducted by the companies within the Novo Group and to support scientific and humanitarian purposes.

The vision of the Novo Nordisk Foundation is to contribute significantly to research and development that improves the lives of people and the sustainability of society.