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DATA SCIENCE COLLABORATIVE RESEARCH PROGRAMME

Information and guidelines for
applicants 2021

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Information about the call

Grant capital:
DKK 60 million

Award amount:
Up to DKK 25 million per grant

Application form opens:
December 2021 (Phase 1)
23 June 2021 (Phase 2)

Application deadline:
16 March 2021, 2 pm CET (Phase 1)
26 August 2021, 2 pm CEST (Phase 2)

Applicant notification:
December 2021

Earliest start date:
January 2022

Latest start date:
December 2022

Review committee:
Committee for Data Science

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1 DATA SCIENCE COLLABORATIVE RESEARCH PROGRAMME 2021

These guidelines are intended to assist you in the application process when applying for a grant from the Novo Nordisk Foundation (NNF). It is important that you carefully read these guidelines before initiating the application process, as the guidelines contain the complete call text as well as instructions regarding the completion of 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.

1.1 PURPOSE

The Data Science Collaborative Research Programme aims to support synergistic research collaborations rooted in data science that:

- lead to new or improved core data science algorithms, methods, and technologies.
- explore and expand data science applications to real-world scientific problems within the scope of the NNF Data Science Initiative.

The programme is part of the NNF Data Science Initiative, through which the Foundation aims to strengthen the Danish academic research environment within data science and artificial intelligence, as well as support the education and training of the next generation of data scientists.

Open competition calls in the Novo Nordisk Foundation's Data Science Initiative

- **The Data Science Investigator Programme** supports excellent independent research leaders with ambitious projects within the field of data science.
- **The Data Science Collaborative Research Programme** supports data science-driven collaborative research projects within the Foundation's scientific focus areas.
- **The Data Science Research Infrastructure Programme** supports investment in shared supercomputers, hardware, staff positions, data collection, curation and management.

In addition, an academy for data science, with the purpose of establishing a network and distributing fellowships, is under design.

The Data Science Collaborative Research Programme supports data science-driven research in the intersection between mathematics/statistics, computer science, and "domain-specific" applications in scientific fields (e.g., medicine, biology, biotechnology, plant science, physics, chemistry, etc.).

- The collaborations can be between researchers within data science (or its underlying areas, i.e., computer science and mathematics/statistics), and/or between data scientists and "domain" experts in other fields within the NNF's scientific focus areas.

- The collaborations can be across disciplines, institutions, or national borders, and should be based on synergistic opportunities for excellent data science-driven research within the core science areas of the NNF strategy.
- To ensure that the funded research projects also advance education and training courses in data science-related topics in Denmark, at least one of the collaborators must be a Danish-based data scientist with a relevant teaching portfolio.

1.2 AREAS OF SUPPORT

The proposed research must fall within the scope of the NNF Data Science Initiative, which aims to support the following key science areas:

- 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.
- Applications of data science (as defined above) within NNF's scientific focus areas (see box below): Biomedical and health science, life science and industrial applications promoting sustainability, as well as natural and technical sciences with potential application in biotechnology or biomedicine.

For projects mainly concerned with data science methods development, it is important that the applicants clearly show the relevance for potential future application and impact within life science, health science, or biotechnology. Vice versa, projects which have their primary focus on application of data science methods 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.

The Novo Nordisk Foundation's scientific focus areas

Biomedical and Health Sciences supports basic research in biomedicine that paves the way for advances in translational medicine and innovative clinical applications. Among the key topics are: basic biomedical research, translational biomedical research and technologies, clinical research, health-related data science infrastructure and applications, and research in patient-centred healthcare and treatment systems.

Life Science and Industrial Applications Promoting Sustainability addresses the escalating global sustainability challenges and the potential to make a positive impact for the environment. The research areas that are supported are within industrial biotechnology and environmental biotechnology, plant science, agriculture and food biotechnology as well as ecosystems research related to these areas. Basic research, platforms, and technologies enabling research on sustainability are included.

Natural and Technical Sciences supports fundamental research within the natural and technical sciences, including, e.g., physics, chemistry, mathematics, data science, and technical sciences. The research must have potential interdisciplinary application in biomedicine, health sciences, or biotechnology; this application need not be in the project period but could be beyond. Focus areas include interdisciplinary research, quantum technologies with potential application in the life sciences, data science, and health- and med-tech.

In general, projects without potential future applications within the NNF's scientific focus areas and projects with no novelty in terms of development or application of data science methods will not be funded in this programme.

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.

1.3 ELIGIBILITY

The Data Science Collaborative Research Programme supports excellent scientists from different research departments - that of the main applicant plus up to three others - that will collaborate in a dynamic structure, exploiting their mutual synergy to solve a specific, shared research question which is within the scope of the NNF Data Science Initiative. The collaboration need not to be a new one, and the primary focus is scientific excellence and synergy in the collaboration.

The main applicant (programme leader) should be at least 50% associated to/employed at a Danish university, hospital, or other non-profit organisation, which will be the host institution for the project. Levels of association of less than 50% at the Danish host institution must be justified in the application and should be considered a rare exception.

The research departments of the co-applicants can be either located in Denmark or abroad. It is critical that the collaboration has a clear impact on data science research in Denmark and that measures are taken to maximise interaction between the groups.

'Co-applicants' are independent researchers that will receive part of the funding, as detailed in the budget. The number of co-applicants can be up to 5, but there are certain budget restrictions (see section 1.4 and 3.3). Other collaborators not written as co-applicants cannot receive funding under this programme. Collaboration with industry partners is possible but not a requirement, however, funding cannot be awarded to industrial partners. It is critical that all co-applicants contribute significantly to advancing the science in the proposal.

The main applicant need not be conducting data science research, but the project must be rooted in data science, and have a clear data science-driven focus.

It is a requirement that the state-of-the-art research is translated into data science teaching programmes and/or training initiatives at Danish universities. At least one of the collaborators (main applicant plus co-applicants) must have a current teaching portfolio at a Danish university that consists of undergraduate, graduate and/or training courses in data science-related topics. The applicants should outline how their project can contribute to strengthening the Danish data science education ecosystem at the national level.

The proposed research project must support collaborations between different institutional departments or different scientific and technical disciplines. A project solely with applicants from the same institutional department will generally not be considered as sufficient basis for a collaboration within this programme.

A non-exhaustive list of examples of collaborations are:

- Collaboration between experts in machine learning from different institutions to improve or develop new algorithms with potential applications in life sciences.
- Collaboration between a medical doctor and data analysis expert to improve handling of clinical imaging data.
- Collaboration between a physicist, a statistician, and a deep learning expert on mining of large data sets from big-science experiments.
- Collaboration between a biogeochemist, a mathematician, and a deep learning expert on mining of large data sets from complex biological ecosystems.

It is a requirement that the synergy obtained by the collaboration is clearly defined and evident in the proposal. The application must clearly state the timeliness and appropriateness of the collaboration, and how the synergy will be catalysed between the involved partners.

A signed letter of commitment from the Danish host institution must be included in the application, as well as signed letters of commitment from all co-applicants. Institution commitment letters are not required from the co-applicants (see section 3.5 for details).

1.4 FUNDING

The total 2021 grant budget for the programme is up to DKK 60 million.

Each Data Science Collaborative Research grant can receive up to DKK 25 million over minimum 4 and up to 5 years, and the total allowed budget for the consortium is calculated based on the following:

- Up to 4 different departments (including that of the main applicant) can receive funding.
- Each department that participates with a single independent applicant increases the consortium total budget by up to DKK 1.0 million per project year.
- Each department that participates with multiple independent applicants (which must be justified in the application) increases the consortium total budget by up to DKK 1.5 million per project year.
- Up to 6 applicants (main applicant and 5 co-applicants) can be involved in the collaboration.

It is allowed to redistribute the funding of the total budget between participants and over the project years. However, the funding level of a department should reflect its project activities. See section 3.3 for further details.

Applicants may apply for funding for the following types of expenses (see section 3.3 for details):

- Salary for scientific staff
- Tuition fee for PhD students
- Salary for technical/administrative staff
- Operating expenses
- Equipment
- Data management
- Collaborative activities
- Conference participation
- Publication costs
- Bench fee
- Direct administrative expenses (up to 5% of the total funding applied for).

NB: Salaries for main applicant or co-applicants cannot be covered.



The grant may not be used to cover 'overhead' (i.e. rent, electricity, water, maintenance etc.)

NNF will not award funding for:

- Commercial activities
- Overhead
- Double funding of projects:

- If the applicant has received funding for the proposed project from other sources, in part or in full, this situation 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 in the application.
- If the applicant, post application submission, receives funding for the project or parts of the project from others, the NNF must be contacted immediately.

Applications cannot be submitted simultaneously to the NNF Interdisciplinary Synergy Programme.

Applying for a Data Science Collaborative Research grant does not block the applicant from also applying (as either a main or co-applicant) for funding via the two other programmes under the NNF Data Science Initiative (Data Science Investigators and Data Science Research Infrastructure); but:

- The applicant must indicate which other submitted proposals includes her/him as a main or co-applicant.
- The different applications should not be contingent on each other. For instance, the feasibility of the project applied for here cannot depend on access to a shared infrastructure applied for under the Research Infrastructure programme, and vice versa.
- Applying with the same project to more than one call is not allowed. Any overlap in project description between applications that are submitted should be clearly indicated and explained.
- An applicant can only be main applicant of 1 proposal in each of the three programmes.
- An applicant can, apart from being main applicant on a proposal, be involved as co-applicant on several other Data Science Collaborative Research proposals. However, an applicant will, regardless of being main or co-applicant, only in exceptional cases be awarded more than one 2021 Data Science Collaborative Research grant.

See also Section 3.5 regarding previous grants awarded to the main applicant.

1.5 LANGUAGE

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

1.6 APPLICATION PROCESS

The application process consists of 2 phases. Phase 1 consists of a short expression of interest, limited to 10,000 characters. Several shortlisted applicants will be invited to Phase 2, in which the applicants will be asked to submit an application with a detailed project proposal of up to 30,000 characters. See section 3.3 for detailed instructions on content.

As final part of the Phase 2 evaluation, the applicants will be invited to the Novo Nordisk Foundation to present and discuss their proposed research projects with the review committee.

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.



When all applications have been assessed, applicants will be notified about the result in an e-mail from noreply@norma.novonordiskfonden.dk to the e-mail address entered on initial registration.

All grant recipients must comply with NNF's 'General Terms and Conditions' when receiving a grant from NNF: www.novonordiskfonden.dk/en/content/conditions-grants.



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

1.7 ASSESSMENT CRITERIA

The NNF's 2021 Committee for Data Science, which consists of 13 international experts within the field, will be responsible for the scientific evaluation and prioritisation of the applications based on the following criteria:

- Scientific excellence of the project.
- The project's originality, ambition, and expected outcome.
- The scientific excellence of all collaborators.
- The collaborative approach and relevance, including the clarity of the overall synergy, and work plan and distribution between the collaborators
- Feasibility.
- Alignment of the proposed research with the strategic directions outlined in the scope of the NNF Data Science Initiative.
- Plans for how the proposed state-of-the-art research can advance or create new data science teaching programmes and/or training initiatives at Danish universities.
- Managerial and scientific qualifications of the programme leader/main applicant.
- The financial situation and prior obligations of the programme leader, in case it can compromise the dedication to, and quality of, the proposed project.

The proposed research must be in-depth, but the subject can be cross-disciplinary, and should not be considered limited to a specific research methodology or discipline.

If you have 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).

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.

NNF will treat all applicant and application information confidentially. Read more about how NNF processes personal data under 'privacy & security' 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. 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 username 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 that 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, e.g., Word 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**.

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 illustration number and legend/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, 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 individual 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, co-applicant(s), and administrating institution in the following tabbed sheets:

- Contact person
- Personal information
- Current institution

- Educational information
- Administrating institution
- Applicant information
- Co-applicant(s)

MAIN APPLICANT

CV for main applicant can be a maximum of 4,000 characters. Please include in your CV:

- A short bibliographic overview summarising total number of peer-reviewed publications, number of first authorships, number of corresponding authorships, number of citations, H-index, etc.
- An overview of your current grants with indication of how much of your research time (in %) is committed to each of the projects.
- A short paragraph on your teaching experience and current obligations. In the project description, you must provide a clear plan for how the collaboration will actively direct or participate in educational or training courses in data science in Denmark during the project period (see section 3.2).

Publications list for main applicant can be a maximum of 5,000 characters. First, include a link to an updated profile with a full publication list on, e.g., ORCID, Google Scholar, Web of Science, or Scopus. Below that, list the 10 most relevant publications (or conference contributions) for evaluating your merits. Include a complete specification of all authors for each publication with your own name highlighted.

Supplementary Information (under Applicant Information). This field can be utilised to describe special circumstances regarding your application that the evaluation committee should be aware of, e.g., current terms of employment. Please do not include any personal information of a sensitive nature, e.g. illnesses, family conditions, etc.



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.

CO-APPLICANT(S)

In this call, up to 4 institutions can collaborate, that of the main applicant, plus 3 others. The total number of co-applicants is limited to 5.

Co-applicants participate actively in organizing and implementing the project and receive a share of the grant. The project description should clearly describe the role of any co-applicants, and the budget should clearly indicate the co-applicants' share of the total budget. Co-applicants must be invited through NORMA and subsequently confirm their status as co-applicants in the application.

- Go to the INVITATIONS link in the blue field on the left
- Click the + symbol and enter the name and e-mail address of the co-applicant
- Select CO-APPLICANT under ROLE in the drop-down menu
- Click INVITE
- Co-applicants will be contacted automatically through NORMA and asked to confirm their status as co-applicants



Please note that co-applicants can read, edit and upload information in the entire application but cannot submit the application.

When the co-applicant accepts his or her status as co-applicant, additional fields will appear in the application. The CO-APPLICANT field includes information about co-applicant(s), including previous grants received from NNF. The following uploads must be included (it is recommended to create a single combined file uploaded as a PDF file by clicking on CO-APPLICANT UPLOAD(S)) for each co-applicant:

- A short CV (maximum two pages).
- A short bibliographic overview summarising total number of peer-reviewed publications, number of first authorships, number of corresponding authorships, number of citations, and h-index.
- Publications list; please only include the 10 most relevant publications for evaluating your merits. Include a complete specification of all authors for each publication with your own name highlighted. Co-applicants are strongly encouraged to provide a full list of publications in, e.g., ORCID, Google Scholar, Web of Science, or Scopus.
- A short summary of research career, and how the past years of research fit into the current proposal and collaboration.
- An overview of teaching track record, highlighting especially the data-science related contributions (if applicable).

Either the co-applicant or the main applicant must complete the CO-APPLICANT field. Only one person can edit the application at a time.

If the co-applicant has confirmed participation but the information has not been entered in the CO-APPLICANT field NORMA will not include the co-applicant as part of the application. The main applicant must therefore check that the information about any co-applicant(s) is included in the application before submitting it.

The application cannot be submitted before the required number of co-applicants have accepted. Similarly, if the number of co-applicants exceed the maximum number allowed, the application cannot be submitted. **NB: Only by contacting NORMA can a co-applicant be removed, which may take some hours to do. Thus, make sure that the co-applicants are correctly entered in due time before submission.**

Please start the process of inviting co-applicants well in advance of submission deadline.

3.2 PROJECT INFORMATION

Enter a description of the project under the PROJECT INFORMATION tab. A maximum of four illustrations can be uploaded here.

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, for this call 4-5 years.

PROJECT TITLE

Please provide a short title for the project (maximum 150 characters, including spaces, line breaks and special characters).

BRIEF PROJECT DESCRIPTION

Please provide a brief stand-alone summary of the project describing its purpose, target group and activities. (maximum 2,000 characters, including spaces).

PROJECT DESCRIPTION

General for both Phase 1 and 2:

Please describe your proposed research project – including **purpose, background, current state-of-the-art, methods, implementation, collaborations**, and the **novelty and significance** of the project, including its contribution to moving data science forward in Denmark.

It is particularly important to clearly describe the methods development and data science applications part of your project, putting this in relation to the current state-of-the-art and describing how your project will bring novelty in terms of development of new data science methods or new impactful applications of established methods.

The Phase 1 project description is a short expression of interest, limited to 10,000 characters (including spaces, line breaks and special characters), which should briefly describe:

- The proposed research, including the main hypotheses and methodologies.
- The project's novelty, expected outcome, and relevance to the Data Science Initiative.
- The respective fields of expertise of the participating research groups and associated synergies.

As part of the Phase 1 project description, please fill in the expected total amount requested, the expected total project costs, and the total additional contributions. A more detailed budget will be requested in Phase 2 (see section 3.3).

The Phase 2 project description: Several shortlisted applicants will be invited to Phase 2, in which case the NORMA interface will open a new tab (PROPOSAL), where the applicants must enter a detailed project proposal of up to 30,000 characters. This full application should include descriptions of:

- An extensive, detailed research proposal, including purpose, background, state-of-the-art, methods, implementation (with Gantt chart and work package description), and the novelty and significance of the project.
- The data that will be used (i.e. how it will be generated and accessed). Wherever possible, support/approval letters, or permits should be included (see section 3.5).
- The involved research groups, their roles and synergies.
- The proposed governance, organisational structure, and plan for achieving a successful and high-impact collaboration.
- How the proposed research will translate into teaching activities rooted in data science (undergraduate courses, graduate courses, vocational training, BSc and MSc study lines, etc.). The main applicant or at least one of the co-applicant(s) must plan to actively participate in and manage educational/training courses in data science in Denmark during the project period.
- How the project will contribute to strengthening the Danish data science ecosystem at the national level through dedicated educational, training, networking and/or outreach activities. The activities should be budgeted accordingly.
- How the proposed collaboration will strengthen and advance data science research in Denmark, highlighting future possibilities for synergy or expansion.
- Potential future applications for the proposed research within the NNF's scientific focus areas (see section 1.2).
- Whether applications for other NNF programmes are submitted simultaneously, particularly for the Data Science Initiative (see section 1.4).
- Signed letters of commitment from the Danish host institution and from all co-applicants (NB: institution commitment letters are not required from the co-applicants).

Abbreviations should be defined at the first use, and preferably a list of abbreviations should be included in the project description.

LITERATURE REFERENCES

Please provide the reference information for the literature cited in the project description (maximum 4,000 characters, including spaces, line breaks and special characters).

LAY PROJECT DESCRIPTION

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 (in English, maximum 1,000 characters, including spaces, line breaks and special characters).



Please note that the application should address all the assessment criteria listed in subsection 1.7.

3.3 BUDGET

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

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.

A detailed budget is only requested if applicants are invited to submit a Phase 2 proposal. For Phase 1 proposals, the expected total requested funding, additional contributions, and total project costs are provided as part of the project description (see section 3.2).

Each Data Science Collaborative Research grant can receive up to DKK 25 million over 4-5 years, and the total allowed budget for the consortium is calculated based on the following:

- Up to 4 different departments (including that of the main applicant) can receive funding.
- Each department that participates with a single independent applicant increases the consortium total budget by up to DKK 1.0 million per project year.
- Each department that participates with multiple independent applicants (which must be justified in the application) increases the consortium total budget by up to DKK 1.5 million per project year.
- Up to 6 applicants (main applicant and 5 co-applicants) can be involved in the collaboration.

It is allowed to redistribute the funding of the total budget between participants and over the project years. However, the funding level of a department should reflect its project activities.

As an example, a consortium with 3 departments, 1 with a single applicant and 2 with 2 (or more) applicants or more, can request up to DKK 4 million per year, resulting in a total budget of up to DKK 20 million for a 5-year project period. The total budget of DKK 20 million can be distributed unevenly over the period to reflect the proposed research activities. Similarly, applicants of one department in the consortium may budget with more than DKK 5.0 (or 7.5 million) in funding over the 5-year period, provided that the total budget of the other applicants is lowered to correspond with the funding maximum of DKK 20 million, and that the funding level of each department reflects its project activities.

Applicants may apply for funding for the following types of expenses when directly related to the project:

- **Salary for scientific employees**, e.g., PhD students, postdoctoral researchers, assistant/associate professors, researchers/senior researchers. Salary will not be covered for faculty with time-unlimited contracts.
- **PhD Tuition fee** up to DKK 80,000 per year per student (must be included separately).
- **Salary for technical staff** for, e.g., data processing, data analysis, data management, software/database development, and dissemination of data/tools.
- **Salary for research secretary** for the main applicant.
- **Equipment**, provided that it is essential for the proposed project, and its use after completion of the project can be clearly justified.
- **Data management** expenses for collecting and storing data.
- **Operating expenses**, e.g., materials, consumables and services.
- **Collaborative activities**, e.g., workshops, meetings, exchange, seminars, and other efforts directed at ensuring fruitful collaboration and synergy between the partners of the programme.
- **Conference participation**, e.g., travel, accommodation and registration for scientific conferences.
- **Publication costs** related to scientific publications originating from the project.
- **Bench fee**, which must be a part of the general expenses policy of the institute/institution. Further, if bench fee is included in the budget applied for, it must be elaborated in the budget what exactly it covers, and it may only be used for lab consumables and access to lab space and facilities that cannot be included within 'operating expenses' or another budget category.
- **Administrative support** of 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;
 - can via the host institution be shared between the institutions of the main and co-applicant(s), as detailed in the application budget;

Please make sure that it is clear who of the collaborators the expenses are dedicated to.

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. It must be clearly described in the INFORMATION FOR ADDITIONAL CONTRIBUTIONS field 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, post application submission, receives funding for the project or parts of the applied project from others, the NNF must be contacted immediately.

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



Applicants may only apply for the types of expenses listed in section 1.4 and 3.3.

3.4 PREVIOUS AND CURRENT GRANTS FROM NNF

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 in the same calendar year, summarize how these applications are related to the current application.

3.5 UPLOADS

The following documents must be uploaded in PDF format, if the applicant is invited to submit a Phase 2 proposal:

- Signed letter of commitment from the Danish host institution.
- Signed letters of commitment from all co-applicants (NB: institution commitment letters are not required from the co-applicants).

If relevant, support/approval letters or permits regarding the data to be used in the project should also be included (see section 3.2).

Please do not include other appendices.

December 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.