

Danmarks Grundforskningsfond
Holbergsgade 14, 1. sal
DK-1057 København K

Tel. +45 3318 1950
Fax. +45 3315 0626
E-mail dg@dg.dk

www.dg.dk

Guide for Applicants

9th Application Round for New
Centers of Excellence

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DNRF in Brief:

- The DNRF was established in 1991 as an independent organization with the objective of funding basic research at a high international level.
- In 1991 the foundation received an endowment of 2 billion DKK (267 M euro) from Parliament.
- The foundation's lifespan was extended in 2008 and again in 2015 by capital injections of 3 billion DKK (400 M euro).
- Since 1991, the DNRF has committed itself to supporting Danish research institutions with more than 7 billion DKK (nearly 1 billion euro).
- The DNRF spends approximately 430 M DKK (nearly 60 M euro) annually.
- A total of 100 centers have been established since 1993.

Introduction

This guide provides information to potential applicants who intend to submit a proposal to the Danish National Research Foundation's 9th application round for new Centers of Excellence (CoE).

The deadline for outline proposals is **Monday, June 6, 2016, at 12 noon.**

Outline proposals must be written in English using an application form, which can be downloaded from www.dg.dk. The application form must be submitted as a PDF file and sent as an attachment to an email to DNRFound9@dg.dk

Applicants are advised to visit www.dg.dk for further information about the foundation, the Center of Excellence funding mechanisms, and existing Centers of Excellence.

Applicants are also urged to contact the secretariat if they have any questions about the application process. Questions may be directed to:

Director Søren-Peter Olesen, e-mail: spo@dg.dk, Tel.:+45 3318 1950 or

Senior Adviser Thomas Trøst Hansen, e-mail: tth@dg.dk, Tel.:+45 3318 1958.

Special Adviser Gitte Tofterup Hansen, e-mail: gth@dg.dk, Tel.:+45 3318 1953

The Center of Excellence Program

The objective of the CoE program is to strengthen Danish research by providing the best possible working conditions and organizational set-up for selected top researchers. Excellence in conducting top-notch research is the main criterion when assessing proposals for new centers.

Centers can be established within and/or across all research areas: Humanities, Life Sciences, Natural Sciences, Social Sciences and Technical Sciences.

The application procedure is conducted as a "bottom-up" process, and applicants from all research fields may apply. The application process is composed of two stages. The first stage involves an assessment of the outline proposals submitted. In the second stage, a number of applicants are invited to submit full proposals. A detailed description of the funding mechanism and the application process can be found in the following pages.

What Is a Center of Excellence?

Centers of Excellence consist of units located at research institutions (the vast majority at universities) sharing a common idea or vision and an overall and clearly defined set of research objectives.

There is no fixed formula for creating a CoE. The centers may differ in size and mode of organization, depending on their subject and scope. Some centers become rather large during the grant period, employing more than 60 people divided into several research teams, while others have fewer than 15 members. The center must have a well-defined framework for cooperation. The foundation finds it essential that applicants form a joint physical community facilitating an intensive daily interaction, also if centers choose to form partnerships with other researchers or institutions either in Denmark or abroad.

A Center of Excellence is headed by a center leader. This leader must not only be a distinguished researcher able to show excellence in his or her own research, but must also have proven him or herself as a visionary leader able to create a dynamic and thriving research environment.

Research based education is an important part of a center's mission because the centers serve as important training sites for the next generation, often attracting exceptional students from Denmark and abroad. Centers are, however, also encouraged to engage with education and dissemination in a broader sense.

Centers are strongly encouraged to pursue collaboration with leading international researchers and to include and attract exceptional and talented employees and visitors from abroad.

Excellent Frontline Research

The term "basic research" is included in the Danish name of the foundation (Danmarks Grundforskningsfond), signaling that the foundation supports what may be defined as fundamental research.

However, the foundation agrees with the observation of the European Research Council (ERC) that the distinction between "basic" and "applied" research has become blurred because emerging areas of science and technology often cover substantial elements of both. The ERC uses "frontier research" to describe fundamental advances at and beyond the frontier of knowledge. "Frontier research" is also a term used by the National Science Foundation (NSF) in the U.S. Both the ERC and the NSF have objectives similar to those of the Danish National Research Foundation.

In addition to "basic research", the foundation has adopted the use of the term "frontier research" or "frontline research" in order to define the kind of research that is eligible for support. Among centers already funded by the foundation, some produce results that are immediately useful, while others pursue pure "blue sky" research.

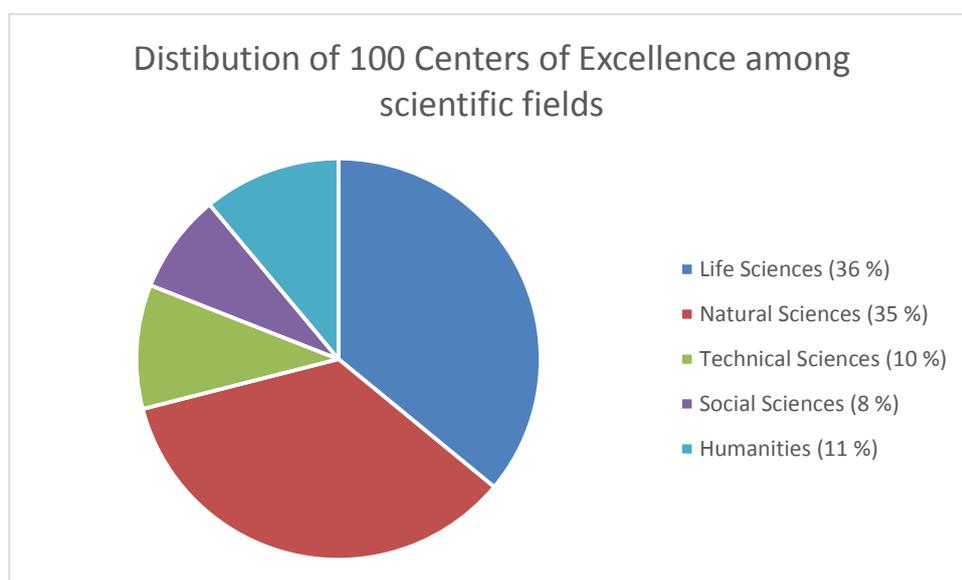
Setting the Scene for Highly Ambitious Research

The foundation welcomes outstanding research of a high international caliber that may be described as ambitious, highly creative, original, scientifically daring, and potentially groundbreaking.

Centers are expected to engage in pondering some of the large, unsolved questions and address the challenges that intrigue them the most. The philosophy is that new and partly unexpected knowledge transcending existing knowledge barriers emerges when devoted people with high scientific standards work together to explore problems that spark their passion. In other words, the foundation welcomes curiosity-driven research – or what might be described as exceptional researchers’ “dream projects.”

Distribution of Centers Among Scientific Fields

The foundation welcomes proposals from all fields of research. A majority of the centers can be described as trans-disciplinary and, therefore, do not readily fit into one of the five categories in the figure below. However, the figure below shows how the 100 centers established so far categorize their main research field.



Six + Four Years of Funding

Until 2009, centers were established for a five-year period with the possibility of an additional five years, provided the center received a favorable mid-term evaluation and presented an ambitious research plan for the second period.

Starting with the 7th round of applications, the DNRF decided to change this structure by extending the first period to six years while maintaining 10 years as the maximum length of a center grant. By providing more time before the midterm evaluation, the foundation hopes to encourage the centers to venture into truly novel and scientifically daring projects that might lead to groundbreaking results.

Eligible Costs

A center grant is large and flexible. When submitting an outline proposal, applicants are asked to include an estimated budget for a six-year period.

The grant may cover expenses for salaries, Ph.D. students, travel costs and conferences, operational costs and equipment. Overhead should be included in the budget (44 percent for universities). Salaries for permanent staff are generally not funded by the foundation, while salaries for Ph.D. students, post-doctoral staff, visiting staff, and technical and administrative staff may be included.

In the second phase, when submitting full proposals, applicants are asked to include a detailed budget estimate.

Evaluation and Follow-Up

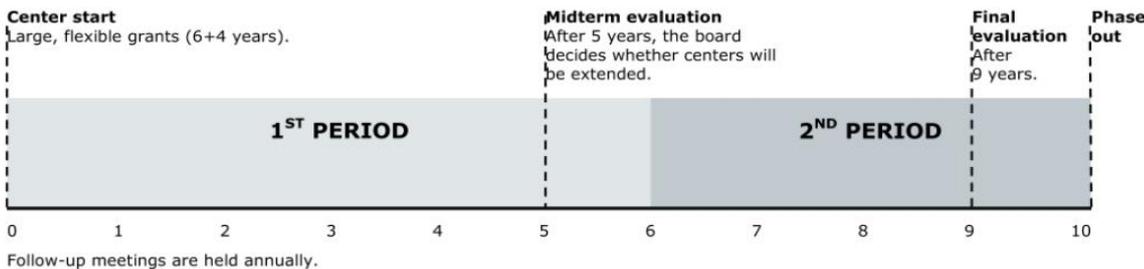
The foundation takes a keen interest in the development of the centers and visits each one annually at follow-up meetings. This set-up provides an opportunity to give advice or make adjustments if things go awry. The annual meetings also provide an opportunity for the foundation and for the centers alike, to learn more about the funding mechanism and how it can best be organized.

In order to systematically collect information on the progress of each center – and the CoE funding mechanism as such – the DNRF asks the centers to submit information annually on a number of key indicators, including, among others, publications, dissemination of research, outreach activities, educational activities, external relations, and organizational development.

The DNRF conducts a mid-term evaluation of each center after five years. Centers will be asked to submit a self-evaluation and an application for a second funding period. An international review panel will evaluate the center, and the review process will include a site visit to the center by the panel.

A final evaluation of the center is carried out after nine years.

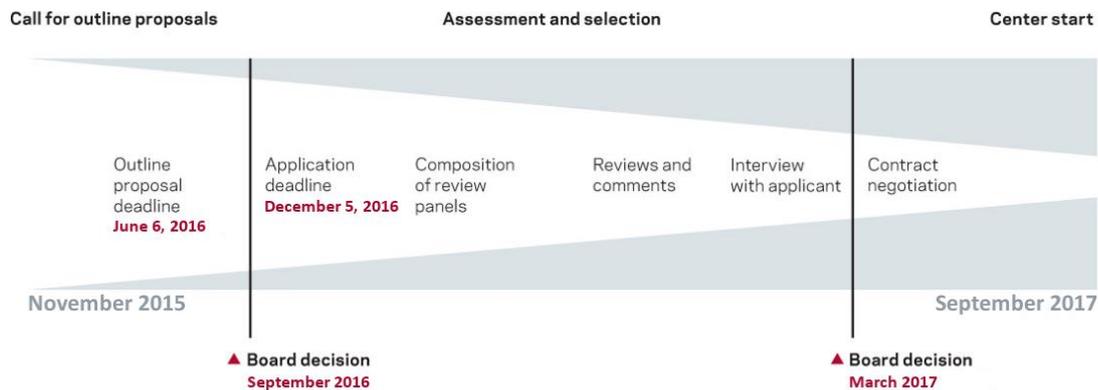
Lifecycle of a center



Assessment and Selection

Calls for new centers are announced approximately every two years, and they involve a two-stage application process. In the first stage, prospective center leaders are invited to submit short outline proposals. These proposals are processed by the board alone. In the second stage, applicants submit full proposals that are reviewed by three international experts in the field. Prior to the final selection, the board meets with each applicant.

The Assessment and Selection Process



The overall success rate from submission of outline proposals to establishment of a center has been only 6 percent in the two previous application rounds. About 13-20 percent of the outline proposals have moved on from the outline stage to the full application phase, and about 30 percent of those proposals have resulted in new Centers of Excellence.

Submission of Outline Proposals

Outline proposals must be written in English using an application form, which can be downloaded from www.dg.dk. The application form must be submitted as a PDF file and sent as an attachment in an email to DNRfround9@dg.dk

The foundation must receive all proposals no later than **Monday, June 6, 2016, by 12 noon.**

As specified in the application form an outline proposal must include:

- An argument for supporting the proposed endeavor (maximum: 1500 characters including spaces); for instance, the argument could address the following questions:
 - How will it redefine the research in its respective field and lead to potential breakthroughs?
 - What kind of new insights and results may it produce?
 - Why should this particular proposed team pursue this research?
- A presentation of the research idea (maximum:10,000 characters including spaces), which could include:
 - A description of how the proposed *research idea* compares to "state of the art" within the given field, including its dimension of novelty and potential for

groundbreaking results and an argument for its scientific or investigative relevance.

- A *strategy* for addressing the challenges. How will the center be organized? Which competencies/capacities will be involved? How will a creative and dynamic research environment be established? Which methodologies and approaches will be employed?

- A short description of the proposed research endeavor (maximum: 1500 characters including spaces). This text will be used as an introduction to the proposal when identifying potential peer reviewers if the applicant is invited to submit a complete application.
- References to the relevant literature (maximum: 4800 characters including spaces).
- A description of institutional affiliations (maximum: 2400 characters including spaces). Please note that the organization of a center may involve more than one institution. If considerable parts of the proposed center is located outside Denmark, the description should include an account of how the center will strengthen Danish research.
- Information about formalized international cooperation and, if relevant, how the applicants envisage attracting junior and senior researchers to the center (maximum: 2400 characters including spaces).
- CV of the proposed center leader, including a brief and concise outline of his or her professional career (maximum: 4800 characters including spaces). Also list the ten most important publications. Please include a paragraph summarizing which work has had the greatest importance and impact. Furthermore, indicate the total number of publications within the following categories: articles, monographs, book chapters, proceedings, other. A list of publications from the last ten years may be included.
- CVs for each of the participating core members (members who would play critical roles for the proposed endeavor to succeed), including a list of the five most important publications. Also, indicate the total number of publications of the above (maximum: 2400 characters including spaces per CV).
- An estimated budget for a six-year period.

Full Proposals

When invited to submit full proposals, applicants should further develop the outline proposal following the guidelines set by the foundation. The full proposal should consist of:

- A visionary presentation of no more than five pages or 12,000 characters including spaces expanding the overall research idea, including:
 - A description of its dimension of novelty and potential for groundbreaking results and an argument for its scientific or investigative relevance and expected impact.
 - A strategy for addressing the challenges. How will the center be organized? Which competencies/capacities will be involved? How will a strong, creative, and dynamic research environment be established? With which institution(s) will it be affiliated? What are the qualifications of the proposed center leader

(scientific as well as managerial skills)? Will specific initiatives be made to attract young and talented researchers? How do the applicants plan to attract international researchers? What sort of international collaboration is envisaged? How will the research activities relate to existing Danish research in this area?

- A description of the planned research program (not exceeding 10 pages or 24,000 characters including spaces but excluding necessary references).
- CV of the proposed center leader, including a brief and concise outline of his or her professional career (maximum: 4800 characters including spaces). Also list the ten most important publications. Please include a paragraph summarizing which work has had the greatest importance and impact. Furthermore, indicate the total number of publications within the following categories: articles, proceedings, monographs, book chapters, other. A list of publications from the last ten years may be included.
- CVs for each of the participating core members (members who would play critical roles for the proposed endeavor to succeed), including a list of the five most important publications. Also, indicate the total number of publications of the above (maximum: 2400 characters including spaces per CV).
- A declaration from the host institution.
- A budget for a six-year period.

Assessment Criteria

The applicants should pay attention to the fact that they are writing to educated laymen – not peers within their discipline. Outline proposals are solely reviewed by the board of the foundation, which consists of nine members, whom possess insight into research at the highest international level. Only full proposals are sent to peer-review.

In the assessment of both outline proposals as well as full proposals, the foundation will emphasize the following dimensions:

- The research idea is ambitious and original and has the potential for real scientific breakthroughs in the relevant research field(s).
- The proposed center leader has a high standing in the international research community as well as managerial skills.
- The center includes high-quality personnel in order to establish a creative and dynamic international research environment that will provide an inspirational training ground for young researchers.
- The focus, structure, and size of the proposed center are such that the center sets the stage for scientific ventures that are not feasible within conventional funding from other sources.

The Peer-Review Process

The DNRF will send full proposals to three international (foreign) high-level experts within the relevant research area(s) for external peer review. The reviewers should possess at least the

same international standing as the applicants. Each reviewer is asked to deliver a report of three to five pages addressing a number of crucial questions. Reviewers are not asked to rank or grade the proposal. The Terms of Reference, which inform the reviewers of their task, is available for applicants at www.dg.dk.

Before the DNRF sends the proposals to the reviewers, both reviewers and applicants are asked to declare a possible conflict of interest. If such a conflict is identified, the reviewer will not be used.

Each applicant may submit the names of three experts, one of whom will be chosen by the foundation to serve on the panel of reviewers who will assess the proposal. The foundation will choose the other two reviewers based on recommendations from external or internal sources. The foundation has chosen this process in order to ensure that the composition of the expert panel is relevant to the applicant's field of study.

The foundation uses an open and transparent process. Reviewers and applicants will know each other's identities. Applicants are given an opportunity to comment on the composition of the review panel and will also be able to comment on the reviews prior to the board's final decision.

Interview with Applicant

The DNRF conducts a short interview with each applicant (proposed center leader) prior to the final decision. Interviews for this round of applications are expected to be conducted between March 28 and March 30, 2017. During the interview, the applicant is asked to present the overall research idea and to elaborate on the strategy for realizing the idea.

Board Processing and Decision

The board bases its decision on the full proposals, the three peer reviews for each proposal, the applicant's responses to the reviews, and the interview. The quality of the reviews received is generally very high, and the reviews usually provide good advice to the board as well as to the applicants/centers. However, although the reviews serve as very important input to the board's decision, it is the board that makes the final decision. The board has thorough discussions of each proposal, arguing in each case why a proposal should or should not be funded. Ultimately, the board must choose to fund relatively few research proposals from a large number of exceptional proposals.

Contract Negotiation

After the board makes its final decision, the foundation and the center leader initiate negotiations with the host institution regarding co-financing, office and laboratory space, and plans for the center after support from the foundation ends.

An official inauguration of the new center is held shortly after it starts operating.

Overall Time Frame

Outline proposals must be written in English using an application form, which can be downloaded from www.dg.dk. The application form must be submitted as a PDF file and sent as an attachment in an email to DNRFround9@dg.dk.

The foundation must receive all proposals no later than Monday, June 6, 2016, by 12 noon.

The board will assess the outline proposals at a meeting in early September, 2016. By mid-September, a number of applicants will be asked to submit full proposals. The deadline for submission of full proposals is December 5, 2016.

Extensive peer review of each full proposal will be carried out during the winter of 2016/17, and the board will make its final decision on funding at a meeting in spring 2017. Prior to making its decision, the board will conduct an interview with each proposed center leader.

The foundation will enter into contract negotiations with the host institutions during the spring and summer of 2017, and new centers may be operating as of September 1, 2017.

November 1, 2015	Call for 9 th application round opens
June 6, 2016	Deadline for outline proposals
Early September, 2016	DNRF board: Decision on outline proposals
Mid-September, 2016	Successful applicants are asked to submit full proposals
October 31, 2016	Submission of applicants' suggestions for external reviewers
December 5, 2016	Deadline for submission of full proposals.
December 2016	Hearing on composition of review panel. Please note that applicants may be given only a few days to comment
January -February 15, 2017	Applicant may comment on external reviews. Please note that applicant will have approximately two weeks to comment
March 28-30, 2017	Interview with DNRF board. The interview will take place in Copenhagen. Each interview will last approximately 30 minutes.
Early April, 2017	DNRF board: Decision on full proposals
Mid-April, 2017	Applicants will be notified of the board's decision. Contract negotiations will be initiated.
September 1, 2017	New centers may start operating