Guidelines for applicants
Guidelines for Applicants

This guide provides practical information to potential applicants in preparing and submitting an application to the FNR PEARL Programme.

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VERSION CALL 2021, 08/07/2020

Changes to previous calls:

- Starting with the PEARL 2020 call, a scientific project manager is required to be present on the project, funded through the host institution’s contribution
- Applicants (and other researchers directly involved in the project) need to have an updated ORCID profile, and indicate their ORCID identifier during the submission process. In addition, two support letters from previous mentees are required as supporting documents
- On December 20th, 2019, the Luxembourg Government has adopted the "National Research and Innovation Strategy for Luxembourg" with the National Research Priorities (NRP). Proposals submitted under the PEARL programme need to align with the National Research Priorities.
1. Introduction

The aim of the PEARL programme is the attraction of leading researchers to Luxembourg, who will build and sustain an innovative, creative, and effective research group, developing a research programme in areas of strategic importance with the potential to generate long-term impact. The proposal is a joint submission by the host institution and the applicant, and should demonstrate a sustainable investment in a specific research area with the goal of attaining international excellence in that field.

The PEARL programme offers five-year grants of 3M€, respectively 4M€ for proposals that have substantial requirements regarding equipment (experimentation, instrumentation, or other research infrastructure). In addition to the FNR grant, a financial contribution by the host institution is expected, as PEARL should be understood as a joint undertaking with the view to reach the institutional and national objective of achieving international visibility in the chosen research field.

The “National Research and Innovation Strategy” defines four interdisciplinary research priority areas, which have been identified as being of particular importance for the societal, ecological and economic development of the country:

- Industrial and Service Transformation
- Personalised Healthcare
- Sustainable and Responsible Development
- 21st Century Education

In the National Research Priorities, these broadly defined interdisciplinary research priority areas have been further refined into subdisciplines and research themes.

Please refer to the document National Research Priorities for a detailed description.

Proposals submitted under the PEARL programme need to align with the National Research Priorities.

2. Submission procedure

The application for the PEARL programme runs in two stages, with the submission of a “Pre-Proposal” followed by the submission of a “Full Proposal”. Full proposals from applicants who have not submitted a Pre-Proposal will not be accepted.

All information and documents provided must be in English. Applications must respect character limits as well as structure, where indicated. In addition, applications must be complete and submitted on time.

Proposals under the PEARL programme will be evaluated and selected in stages as described in the PEARL programme description. The submission procedure foresees a single annual deadline for proposals, split between a pre-proposal submission and a follow-up full proposal submission for proposals which are accepted by the Strategic Merit Assessment (SMA) panel. The proposals must be submitted in electronic format using the online submission system (FNR Grant Management System) https://grants.fnr.lu by the annual deadline. An administrative eligibility check is carried out by the FNR once the proposal has been submitted.
You are advised to contact the FNR office as early as possible if you intend to put together a proposal in order to obtain additional guidance.

3. Eligibility

3.1. Eligibility of Host Institutions

The following organisations established within Luxembourg are eligible for financial support from the FNR under the PEARL programme:

1. Public institutions performing research in Luxembourg
2. Non-profit associations and foundations performing research in Luxembourg and that have obtained a special authorization from the Ministry for Higher Education and Research

Each entity has to be registered at the FNR in order to be able to submit proposals through the online submission system.

Each application must be submitted by a duly authorized representative of the institution (e.g. CEO, Director, Rector or Vice-rector).

‘Contracting Partners’ are institutions which are eligible for funding and which seek direct financial support from the FNR.

Among those, the PI’s future host institution is referred to as ‘Coordinating Institution’.

‘Non-contracting Partners’ are organisations or individuals from the public or private sector (within Luxembourg or abroad) participating in the project without direct financial support from the FNR.

‘Subcontractors’ are not considered as partners (contracting or non-contracting) in the project.

For more information on eligibility on institutions, please consult the information on the FNR website https://www.fnr.lu/en/about-us/beneficiaries

3.2. Eligibility of PEARL Candidates

The aim of PEARL is to attract leading researchers to Luxembourg to build a sustainable research group within the research ecosystem of the country. To that end, the FNR sees PEARL positions as new structuring positions for research institutions which should align to the goals and strategy of the institution they are applying with.

In order to be eligible as Principle Investigator of a PEARL application, researchers must comply with the specific FNR requirements for principal investigators and supervisors available on the FNR website Download Center in the Section “General Guidelines for All Applicants”.

In addition, candidates must:

- have an outstanding level of scientific ability – i.e. research work must be internationally recognised within their field
• undertake to set up a research group in an eligible Luxembourgish institution capable of advancing research in Luxembourg in the relevant field
• submit their proposal to the FNR jointly with an eligible Luxembourgish institution that is willing to host the project and to offer the researcher a work contract and additional contribution in accordance with the PEARL grant conditions
• not be currently employed in Luxembourg at the time of pre-proposal submission.

A candidate that is invited to submit a full proposal may only apply once for a PEARL grant. Candidates who have applied in previous PEARL calls but have not been invited to submit a full proposal, can resubmit a pre-proposal in subsequent calls, but must clearly explain the reasoning for a resubmission in light of the previous decision of the panel.

Open PEARL (application without candidate):

In the case of an open PEARL, the eligibility of the candidate will be determined during the recruitment and hiring. However, the eligibility criteria listed here are still applicable.

4. General principles for FNR-funded research activities

Research activities conducted in the frame of an FNR-funded project should fulfil the following general principles:

4.1. Legal and Ethical Requirements

Research activities should respect fundamental ethical principles, including those which are reflected in the Charter of Fundamental Rights of the European Union.

The Ethical Issues Table in the web-based online application of the proposal provides a guide to what are considered to be ethical issues. If the answer to any of the questions of the Ethical Issues Table is YES, the applicant must provide a brief description of the ethical issue involved and how it should be dealt with appropriately in the project description.

The following special issues should be taken into account:

Informed consent: When describing issues relating to informed consent, it will be necessary to illustrate an appropriate level of ethical sensitivity, and consider issues of insurance, incidental findings and the consequences of leaving the study. Particular attention must be paid to properly inform study participants about the complex research procedures. If children are involved in a research activity it is necessary to obtain their assent and the permission of their parents.

Recruitment of patient cohorts: For the recruitment of patient cohorts equitable selection of patients should be ensured. The inclusion/exclusion criteria as well as the power calculations underpinning the recruitment targets will need to be described.
Collection and use of human derived material: The type and amount of biological materials to be taken from study participants and the manner in which biological materials will be taken including safety and invasiveness of the procedures for acquisition need to be specified. The measures employed to protect the privacy of and minimize risks to participants the length of time the biological materials will be kept, how they will be preserved, location of storage, and process for disposal, if applicable need to be described. Any anticipated linkage of biological materials with information about the participant, if applicable will need to be described. One should note that downstream research on human derived material (such as somatic cells for the generation of iPSC cells and derivatives) could also raise ethical concerns (e.g. large-scale genome sequencing may evoke concerns about privacy and confidentiality). Appropriate confidentiality protections and consent for the downstream use of the material will need to be ensured.

Data protection issues: All FNR funded projects must comply with the EU’s General Data Protection Regulation (GDPR) with regards to all data protection issues.

Use of animals: Where animals are used in research, the application of the 3Rs (Replace, Reduce, Refine) must be convincingly addressed. Numbers of animals should be specified. Describe what happens to the animals after the research experiments.

Human embryonic stem cells: Research proposals that will involve human embryonic stem cells (hESC) will have to address all the following specific points:

- the applicants should demonstrate that the project serves important research aims to advance scientific knowledge in basic research or to increase medical knowledge for the development of diagnostic, preventive or therapeutic methods to be applied to humans
- the necessity to use hESC in order to achieve the scientific objectives set forth in the proposal. In particular, applicants must document that appropriate validated alternatives (in particular, stem cells from other sources or origins) are not suitable and/or available to achieve the expected goals of the proposal. This latter provision does not apply to research comparing hESC with other human stem cells
- the applicants should take into account the legislation, regulations, ethical rules and/or codes of conduct in place in the country(ies) where the research using hESC is to take place, including the procedures for obtaining informed consent
- the applicants should ensure that for all hESC lines to be used in the project were derived from embryos
- the donor(s)’ express, written and informed consent was provided freely, in accordance with national legislation prior to the procurement of the cells
- that result from medically-assisted in vitro fertilisation designed to induce pregnancy, and were no longer to be used for that purpose
- the measures to protect personal data and privacy of donor(s), including genetic data, are in place during the procurement and for any use thereafter. Researchers must accordingly present all data in such a way as to ensure donor anonymity
- the conditions of donation are adequate, and namely that no pressure was put on the donor(s) at any stage, that no financial inducement was offered to donation for research at any stage and that the infertility treatment and research activities were kept appropriately separate
Other ethical issues: Other ethical issues may pertain to research conducted with/in developing countries such as through the use of local resources (genetic, animal, plant, etc) as well as research which may have an impact on the local communities (e.g. capacity building, access to healthcare, education, etc).

Dual Use research having direct military use or the potential for terrorist abuse also gives rise to ethical issues.

In case of multi-national projects, identify the countries where research will be undertaken and which ethical committees and regulatory organisations will need to be approached during the life of the project.

The application should specify any already existing authorisation or permission for the proposed work and include copies (the copies do not count towards the page limit).

The applicant is advised to contact the department in charge of ethical issues in its research institution for support.

4.2. Research Integrity

Applicants must comply with the FNR research integrity guidelines and FNR ethical charter accessible under: https://www.fnr.lu/download-center/. Research misconduct, e.g. plagiarism or falsification of data, may result in the immediate disqualification of the research proposal or the cancellation of the research project.

4.3. Quality Framework for Doctoral Training

PhD candidates that are funded through FNR grants are expected to be offered a research and training environment in accordance with the principles enounced in the Quality Framework for Doctoral Training (QF).

The QF contains a set of requirements with respect to the management, quality and academic standards of PhD training, in particular:

- doctoral research environment and management
- recruitment and admission into doctoral training
- supervision
- skills training and professional development
- dissemination of research results
- good practice in research
- thesis assessment committee and procedures

Host institutions of FNR-funded PhDs are expected to implement the QF requirements. Beyond the implementation of the QF requirements on institutional level, PIs are encouraged to consider innovative approaches to structured doctoral training inspired by international best practice.
4.4. Dissemination and Impact of Research

The FNR attaches great importance to the dissemination and impact of research results. The dissemination and transfer of knowledge is a key added-value of research actions and measures need to be taken to increase the use and impact of results by industry, policy makers and society. The FNR expects results to be published in peer-reviewed open access publications. The FNR also encourages the protection and the economic exploitation of research results when it is possible and applicable. Besides, the FNR also encourages the dissemination of research towards the general public and the media. Thus activities aimed at generating impact need to be foreseen from the initial project planning on.

Open Access

To maximise the possibilities for impact of research outputs, results from FNR-(co)funded research are expected to be disseminated via high-quality, peer-reviewed publications that are made freely available (c.f. FNR Policy on Open Access). As of 1 January 2017, costs for project related publications can be refunded through the FNR’s “Open Access Fund”. This does not apply to conference proceedings, PhD theses, book chapters and scientific monographs, although the FNR recommends Open Access publishing whenever possible. Please refer to the Open Access Fund guidelines for details.

Intellectual Property Rights management

Generally, the FNR does not present any claim relating to intellectual property rights and the use of the knowledge gained through the activities funded through the FNR programmes. In return, it is expected that the involved host institutions undertake measures to examine the opportunity and possibility of protecting intellectual property rights related to results gained in the framework of an FNR-funded project. The terms and conditions for sharing the intellectual property rights between the individual host institutions themselves and between the host and partner institutions (if applicable) are governed by specific agreement(s) to be established in the frame of the FNR project to the extent specified in the following principles:

- all involved institutions (host and partner) shall not undertake action of any sort and in any way that might compromise a possible protection of the intellectual property rights arising from the knowledge gained in the framework of the project
- the involved institutions will not obstruct the protection of the intellectual property rights arising from the knowledge gained in the framework of the project;
- it must be possible for the host institutions to publish the knowledge gained in the framework of the project after a reasonable period of time; institutions ensure that PhD theses are made publicly available, possibly after an embargo period not exceeding two years
- host institutions keep the right to use the knowledge gained in the framework of the project for teaching and research purposes

The revenue that the host institutions make from the commercial use of the knowledge gained in the framework of the project shall be used as follows:
• to cover the external expenses associated with protecting the intellectual property rights
• to allocate a fair share of the revenue to the inventors
• to finance research, innovation and exploitation projects conducted by the host institutions

4.5. Acknowledgment of financial support

Financial support from FNR must be acknowledged in all publications and other forms of media communication, including position announcements, media appearances, press releases and conferences. Acknowledgements should identify the type of FNR support and quote the project reference number where possible. For further guidance on the acknowledgement of FNR funding and the use of FNR logos, please refer to the FNR Communication Guidelines.

4.6. Working Conditions and Research Culture

The FNR strives to support a positive research culture in Luxembourg, in order to ensure that all actors involved in research are driven and motivated to contribute to high-quality research. In the implementation of the research activities and the development of research groups, adequate attention needs to be paid to working conditions, transparency of recruitment processes and career development. In this matter, the European Charter for Researchers and the Code of Conduct for the recruitment of Researchers offer a reference framework.

In order to foster a positive research culture, leading PIs are encouraged to give particular emphasis to diversity and inclusion aspects. PIs should be aware of the effects and dangers of unconscious bias and must strive to ensure that diversity and inclusion are fostered and respected in all aspects of their activities, especially with regards to recruitment.

4.7. Requirements for ORCID, CV, and support letters

As part of the PEARL application (both pre-proposal and full proposal, an up-to-date ORCID profile is required. In the online application, there is a section to enter the applicant’s ORCID, and this should be included in the CV as well.

As a signatory of the San Francisco Declaration On Research Assessment (DORA), the FNR evaluates quality and impact independently of journal-based metrics and encourages applicants to consider a range of outputs originating from their research. Consequently, it is requested that metrics (e.g. number of citations, impact factors, H-index, etc…) are not included, neither in the application, nor in the CV and publication list of the applicant. The quality and impact of scientific output should be described through other means, particularly in the applicable sections of the project description form.

In order to provide evidence of high-quality mentorship, the applicant should provide contact details of up to five former mentees (i.e. PhD candidates or post-docs that the applicant has previously supervised). FNR may request up to two confidential assessment letters from these former mentees.
4.8. Other information

PEARL grant holders are not precluded from submitting to other FNR funding schemes, and are instead strongly suggested to take advantage of the other funding instruments to build a sustainable research group.

The FNR reserves the right to review any grant offer if the project starts later than one year after positive notification. In case the application was retained without a candidate (“Open PEARL”) the FNR will review the grant offer 2 years after positive notification.

5. Timeline for PEARL 2020 call

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>October 13th 2020 14:00 (CET)</td>
<td>Deadline for the submission of pre-proposals</td>
</tr>
<tr>
<td>October - December 2020</td>
<td>Strategic Merit Assessment by PEARL standing panel and shortlisting of proposals</td>
</tr>
<tr>
<td>February 12th 2021 14:00 (CET)</td>
<td>Deadline for the submission of full proposals</td>
</tr>
<tr>
<td>February - April 2021</td>
<td>Evaluation of proposal by at least 3 international experts in the field and written feedback to applicants</td>
</tr>
<tr>
<td>May - June 2021</td>
<td>Interview sessions with expert panel to obtain funding recommendation</td>
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<tr>
<td>June - July 2021</td>
<td>Final funding decision by the FNR Board and communication to applicants</td>
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6. Proposal Guidelines

All FNR Grants are managed through an online submission system accessible via http://grants.fnr.lu. This system provides applicants a web services interface for automated submission and further monitoring of completed grant applications and related services (acknowledgement emails, notifications and reminders).

The system will guide you through the different steps of the application procedure. Forms have to be filled in online and submitted in electronic format.

On your first visit, you will have to register as a new user. You will receive an email with your login data and a link to confirm your registration. After clicking this link, you may log into the system. The welcome page of the FNR Grant Management System shows you the content of your INBOX.

On the next page, click ‘Create New Application’ and select the PEARL programme. Follow the steps for completing the application, i.e. completion of the online form, downloading and off-line completion of templates, conversion to PDF, upload of completed template and relevant support documents, etc.

The submission of the application (Pre-Proposal and Full Proposal) to the FNR consists of 2 stages:

- Submission by applicant to host institution
- Validation and submission by host institution
After having generated the application in PDF format, please click the button 'Submit for Institutional Check'. The application will now be accessible to the administration of your Host Institution in Luxembourg. They have the possibility to check and validate your application and/or return it to you for changes. The final submission of the application to the FNR is acted by the coordinating institution’s administration (not by the applicant). Please note that the Host Institution has to respect the FNR deadline for the final submission of the application.

All applications must be submitted in electronic format to the online submission system.

For technical questions regarding the ‘FNR Grant Management System’, the FNR can be contacted by email at tech-support@fnr.lu or call our Help Desk at +352 26 19 25 45.

Open PEARL (application without candidate):

Open PEARL applications will have a much stronger evaluation focus on the pre-proposal, which outlines the strategic necessity of the project for Luxembourg and the host institution. Once the application has passed the strategic merit assessment, the PEARL position is considered earmarked, and the open PEARL recruitment will be started.

7. Completing the Pre-proposal

The pre-proposal is a submission by the host institution to the FNR grant management system (https://grants.fnr.lu) no later than 14:00 (CET) on the above deadline date.

The pre-proposal consists of 2 parts:
1. Online application form (providing a general overview)
2. Pre-proposal project description (word template)
3. Preliminary budget form (excel template)

7.1. Online Application Form

The online completion process of the PEARL application is the same for the Pre-Proposal and the Full Proposal and consists of 3 different steps, which are presented as a ‘To Do’ list:
1. Consult the Guidelines for Applicants
2. Fill out the Online Application Form and upload attachments
3. Generate a PDF document and submit application for institutional validation

The first step named ‘Check Guidelines for Applicants’ reminds you to consult the present document to guide you through the application stages. Press the button ‘Done’ to validate the completion of the task and make it disappear from your ‘To Do’ list.

In a second step, click on the hyperlink named ‘Online Application Form - PEARL’, which brings you to the Online Application Form to be completed.
Please note that there is only one Online Application Form both for the Pre-Proposal and for the Full Proposal. The information computed in the Pre-Proposal stage will be maintained for the Full Proposal stage (online application form will be prepopulated, though remains open for eventual adaptations in the Full Proposal stage). In the Full Proposal stage, additional information will be required.

The form can be saved at any time and you can come back to it later on. Before you can submit the completed form however you need to make sure that all mandatory questions (marked with *) have been filled out. Please also ensure that all data is correct before submission. When completing the online form, you might have to use the scroll bar to see all the fields. To validate a section and jump to the next one, click the button ‘Save draft and continue to next section’!

Additional information on how to prepare your PEARL Pre-Proposal is given on the following pages in blue italic characters.

If you need further advice and support, please contact the PEARL programme manager.
Online Application Form - PEARL

Application Form

1. Principal Investigator Personal Data

In the case of an open PEARL (without candidate), please enter the information of the institutional representative responsible for the application.

1.1

Application ID: Generated Automatically

ORCID ID URL:
Please create and/or update your ORCID Profile prior to the application submission

First Name:
Family Name:
Gender:
Title:
Current Position:
Current Institution:
Department:
Website:
Country:
Email:
Phone Number:
Date of Birth:
Nationality:

Disclaimer: Data, such as “date of birth”, “nationality” or “gender”, is collected for statistical purposes and are not relevant to scientific peer review

1.2 Luxembourg Host Institution

Name of Host Institution
Please provide the name of the hosting research institution where the candidate will work, and which will serve as the contact for FNR throughout the application process and project implementation.

Department:
2. Project Description

2.1

Project Title: The title should not be longer than 200 characters

Project Acronym: The acronym should not be longer than 10 characters

Project Start: Tentative: Please note that the FNR reserves the right to review any offer of support if the start date of the project is delayed to more than 1 year after a positive offer

Total Project Costs € (eg. 500000 no decimal points or commas): Please quote the total of the detailed calculations in the PEARL budget sheet

Requested Funds From FNR Programme €: Please quote the total of the detailed calculations in the PEARL budget sheet

Total Effort (Person Months): Indicate the time spent by all persons on the project

Total Effort to be Financed by Project (Person Months): Indication of the share to be financed by the PEARL grant

Total Effort PI (Person Months): Indicate the time spent by the PI on the project

2.2 FNR Research Field

Select the research field that best fits to your proposal

2.3 Select Primary and Secondary Domains/Sub Domains

Primary domain – Use the primary domain designation that best fits your proposal
Secondary domain – Optionally, you may select an additional domain/sub-domain

To select a domain, choose one from the drop-down menu. To select a sub-domain click and highlight one choice only. The domain and sub-domain are needed for statistical purposes.

2.4 Key Words Characterizing the Research Project:

Give 3-8 key words that you consider sufficient to characterize the scope of your project

2.5 Project Summary (approx. 1/2 page):

Please write a scientifically oriented abstract. It should provide a clear understanding of the objectives of the proposal, how they will be achieved and give a clear indication of the research question to be addressed.
2.6  **Short Candidate Profile (approx. 1/2 page):**

*Please write a short abstract on the applicant, including a condensed CV as well as the most relevant experience and skills that are applicable to the project.*

*In the case of an open PEARL (application without a candidate), write an abstract describing the ideal profile, including the required experience and skills necessary for the project. Include a description of the international competitiveness of the profile, and the means that the host institution will utilize to attract such an applicant to Luxembourg.*

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2.7  **Legal and Ethical Requirements**

Does your research involve human participants?

Does your research involve human biospecimens?

Will you still need to seek approval by the institutional ethics committee?

Will you still need to seek approval by the CNER (Comité National d'Éthique de Recherche)?

Does your research involve animals?

Will the proposed procedures on the animals still need to be approved by your institute’s animal welfare office?

Will the proposed procedures on the animals still need to be approved by the Ministries of agriculture and Health?

Does your research involve personal data collection and/or processing (including further processing of previously collected personal data - secondary use)?

Does your research involve children as participants?

Are there any other ethics issues that will need to be taken into consideration?

If you have answered yes to any of the questions above you will need to provide more ample explanations in the relevant section of the proposal.
3. Research Project Consortium Details

The FNR formally distinguishes between:

**“Contracting partner”**: The institution which is eligible for funding and which is seeking financial support from the FNR.

Contracting partners are Luxembourgish project partners that may benefit from direct funding from the FNR, and that satisfy the conditions outlined in section 3.1.

**“Non-contracting partners”**: Organisations or individuals from the public or private sector (in Luxembourg or abroad) that provide direct intellectual and scientific input to the project but may not receive direct funding from the FNR.

### 3.1 Contracting Partners (add only institutions different from the Coordinating Institution) *

*Click the Add button to validate your entry before continuing.*

<table>
<thead>
<tr>
<th>Institution</th>
<th>Department</th>
<th>Name of Collaborator</th>
<th>Web Address</th>
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### 3.2 Non-contracting Partners

*Click the Add button to validate your entry before continuing.*

<table>
<thead>
<tr>
<th>Institution</th>
<th>Department</th>
<th>Name of Collaborator</th>
<th>Web Address</th>
</tr>
</thead>
</table>
4. Attachments

4.1 Project description

If you want to replace the file already uploaded, please REMOVE it first then RENAME it before uploading it back to the system.

Attach a PDF file with the Project description

Please upload the completed Project Description. Upload pdf files only and use short filenames without spaces or special characters e.g. cv.pdf. If you want to replace the file already uploaded, please REMOVE it first then RENAME it before uploading it back to the system.

4.2 Recent CV

Recent Curriculum Vitae for Applicant in the Project

Please do not include Pictures and personal information not relevant for scientific peer review (i.e. Gender, Birthdate, Nationality)

Please upload a recent Curriculum Vitae, (max. 5 pages in pdf format). Do not include pictures and personal information not relevant for scientific peer review (i.e. Gender, Birthdate, Nationality). Please refrain from using impact factors and other metrics when referencing scientific output. If you want to replace the file already uploaded, please REMOVE it first then RENAME it before uploading it back to the system.

4.3 Additional Annexes

Upload additional Documents (if necessary)

Upload two (2) letters of reference from researchers that the candidate has previously mentored, as well as any other support documents that are directly applicable to the proposal.

4.4 Excel Budget sheet

Upload the Budget Sheet

Upload pdf files only and use short filenames without spaces or special characters e.g. cv.pdf. If you want to replace the file already uploaded, please REMOVE it first then RENAME it before uploading it back to the system.
7.2. Pre-proposal Project Description

Within the PEARL call, the FNR is setting up a character limit instead of a page limit for the pre-proposal project description.

The project description must include the exact headings of the form and is limited to a total number of 20,000 characters, including spaces.

As a recommendation, please use font types such as Arial, Times New Roman or Helvetica with a font size of minimum 11 points and adequate line spacing and margins. Pictures and graphs may be included. Scanning of written text is not allowed.

FNR uses the tool Count Anything to check the number of characters. Template section headings will not be considered in the character count.

Proposals exceeding the indicated character limits will be rejected without further evaluation.

The aim of the pre-proposal is to explain the strategic fit of the proposed research direction with regards to the research strategy of the host institution as well as the current and future international development of the research field. In addition, the pre-proposal should clearly explain the intentions of the institution to develop the field in the long-term, and how the project will build high-impact capacity through the recruitment of an experienced PEARL fellow and a sustainable investment strategy, both by the FNR and the host institution. Finally, the institution should profile the chosen candidate, describing how and why they were chosen for the PEARL application.

1. Context of the Project
   The pre-proposal should describe the current landscape in the research area of interest, detailing the institutional, national, and international perspectives. If there is already existing competence in Luxembourg, it should be discussed why added investment is needed in the area.
   The international state of the art of the research should be described, as well as any gaps that are seen to be present in the landscape. The pre-proposal should then outline how these gaps should be filled, and why the institution is best placed to do this in the context of a PEARL project.

2. Project Summary
   A short overview of the PEARL project should be given in this section, with sufficient detail for the reviewers to understand the research programme proposed. While explicit detail on the implementation and methodologies can be saved for the full proposal, there should be a clear definition of the state-of-the-art, a defined long-term goal/expected results, and key milestones/outcomes for the research programme. Slight details of the project can change between the pre-proposal and full proposal, but the general ideas should remain the same.

3. Institutional Strategy
   The proposed PEARL project should fit in the research priorities of the institution and of Luxembourg, and this should be detailed in this section. In addition, clear plans for the
development of this research area should be described, including the PEARL project but also involving investments beyond the scope of the single programme.

4. Short Candidate Profile
For the PEARL project, a candidate should be found who is best placed to fulfil the objectives of developing the strategic research area, and is an optimal choice for the further development of the institution. The internal selection of the candidate should be detailed, including the criteria/evaluation methodologies used to ensure the right person for the position. Highlight key outputs and achievements in relation to the FNR-defined dimensions of “Excellence in Research.”

4a. (open PEARL only) Description of ideal candidate profile for project
If there is no candidate yet for the project, then an optimal profile for the project should be outlined, taking into account the needs of the project as well as the strategic direction of the institution. If the profile is difficult to find, or highly attractive in the current international market, then the proposal should explain what measures will be performed in order to ensure such a candidate can be attracted to Luxembourg.

5. Institutional Commitment and Development of Research Area
The PEARL project represents an accelerated initial funding of a research area aligned with the research strategy of the institution and the country. There should be a clear description of how the institution (along with other institutions in Luxembourg, if applicable) will ensure that the research area driven by the PEARL will be fostered and grown into something that creates international impact and visibility for Luxembourg. This can include future hiring of complementary faculty, permanent research staff in the field, infrastructure development, or other aspects.

7.3. Preliminary Budget Form
For the pre-proposal stage, a preliminary budget is requested by the FNR. The purpose of the pre-proposal is to show the strategic fit of the project, as well as the commitment of the host institution. The budget should have enough detail to show that there is a strong commitment present. There can be changes between the pre-proposal and full proposal budget as it evolves, but a significant reduction in the commitment of the host institution should be avoided.

For further details about the budget, please see the “Proposed PEARL Budget” section or the section “Financial guidelines for PEARL applicants” below.

8. Completing the Full Proposal
The full proposal consists of 4 parts:

1. Online application form (providing a general overview)
2. Full proposal project description (word template)
3. Proposed PEARL Budget (excel template)
4. Additional Annexes (support letters from mentees, any other relevant support documents)
8.1. Online Application Form

The online completion process of the PEARL application is the same for the Pro-Proposal and the Full Proposal and consists of 3 different steps, which are presented as a ‘To Do’ list:

1. Consult the Guidelines for Applicants
2. Fill out the Online Application Form and upload attachments
3. Generate a PDF document and submit application for institutional validation

Please refer to section 7.1 for help in completing the online application form.

8.2. Full Proposal Project Description

Download the template for the Proposal project description form from the FNR Website. This document should be saved to the desktop and completed off-line. The following section describes formatting guidelines as well as detailing the various sections of the project description.

Formatting Guidelines

Applications have to be written in English.

In the annex, personnel information in the form of a scientific/academic CV should be given for the candidate. Information about other investigators or project partners should be given in succinct 1 page CVs or descriptions. The annexes should not exceed a page limit of 30 pages.

Within the PEARL call, the FNR is setting up a character limit instead of a page limit for the full proposal project description.

The project description must include the exact headings of the form and is limited to a total number of 105,000 characters, including spaces.

Exceptions:
Additional characters are allowed for the following headings if applicable:
Ethical considerations (6,000 characters recommended, including spaces)

As a recommendation, please use font types such as Arial, Times New Roman or Helvetica with a font size of minimum 11 points and adequate line spacing and margins. Pictures and graphs may be included. Scanning of written text is not allowed.

FNR uses the tool Count Anything to check the number of characters. Template section headings will not be considered in the character count.

Proposals exceeding the indicated character limits will be rejected without further evaluation.
# Project Description Sections

A PEARL proposal describes the institute’s and candidate’s ambition to develop a key strategic research direction and aims to convince the FNR to devote significant funding to support the initiative. In contrast to the pre-proposal, which is focused on the institutional and national context as well as strategic fit of the project, the full proposal is focused on the concrete implementation and impact of the project, as well as the impact it will have.

The proposal is divided in 5 main chapters, split between chapters concerning the general setting and strategic fit of the PEARL proposal, the candidate’s profile, and the overall research programme.

## 1. Summary

This section serves as an executive summary for the overall project. It should outline the entire document in a way that allows the strategic fit, goals, and overall plan to be clear, without going into the detail of the subsequent sections.

## 2. Context of the Project, Institutional Strategy, Vision

The proposal should describe the context and environment in which the PEARL candidate will be embedded. Describe the national and international status of the research area, including the current state of the art. The gap that needs to be filled to bring the research area forward should be highlighted, in order to understand how the project fits into the international context.

On an institutional level, the history of the department/unit/centre and its current situation in terms of scientific output (number of publications, PhDs, etc.) and socio-economic impact of their research should be described. Existing strengths of the department/unit/centre in terms of personnel (key PIs), resources, infrastructure, and interactions with research users and national and international scientific networks (collaborators, etc.) will need to be demonstrated (include quantitative and qualitative indicators if possible).

The applicant team should lay out their strategy and vision for their priority research domain and define clear objectives in line with that vision. The application should clearly explain how the project will allow the above-mentioned gap in the current research area to be filled.

In addition, the proposal should explain how the PEARL candidate will fit within the strategy of the institution and will contribute to the fulfilment of the objectives set out in the proposal and the strategic documents of the institution (e.g. Performance Contract). Special emphasis should be put on the strategy to achieve international competitiveness of the institution (an appraisal of the competitive environment should be given) as well as

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**Chapters** | **Recommended character limits**
--- | ---
Executive Summary | 6 000 characters
Context of the Project, Institutional Strategy, Vision | 24 000 characters
Research Programme | 75 000 characters
Intended Impact Profile and Motivation of Candidate | **Ethical Issues** (not counted toward character limit)
measures to exploit the research results to achieve socio-economic impact. It is as well important to highlight how this strategy for the research domain will be supported on a long-term basis by the institution.

3. Research Programme

3.1. Scientific Objectives and Methodologies
The applicant will need to describe the scientific questions and objective that are intended to be tackled. The scientific objectives need to be sufficiently concrete to allow for a progress monitoring towards to achieving them by the advisory boards (it is understood that these objectives will need to be adapted throughout the course of the programme to account for the evolution of the field). An appropriate level of detail on the approaches and methods as well as initial projects needs to be given to allow for the assessment of the appropriateness and feasibility of the whole endeavour.

3.2. Intended Impact
The proposal will need to show the tangible goals of the project, and the expected impact. While scientific impact is the main focus of the PEARL project, other types of impact should be highlighted to demonstrate a well-rounded programme. This includes socio-economic impact (e.g. through exploitation of IP, fostering interactions with actors from the private sector and other societal actors), the training of graduate students, and outreach to the public (in order to raise awareness and the understanding of the research topic by a lay audience). The above should be considered in the short as well as in the medium to long term.

3.3. Implementation Plan
The implementation plan should provide a structure for the PEARL project, including descriptions of work packages, deliverables, and milestones on a scientific and organisational level. This should be detailed enough to allow for the evaluation of the ambition and feasibility of the project by the panel experts as well as the monitoring of progress by the scientific advisory board. It must be noted that this plan is able to change over the course of the 5-year programme (in dialogue with the Scientific Advisory board), but a solid initial plan must be set in place.

Budget requirements for the initial 5 years as well as the years 6-10 should be provided, highlighting the required PEARL funding and contributions by the institution. Importantly, the applicant team should provide a plan of how they intend to consolidate and sustain the programme with institutional (internal) and external funding to allow for a smooth transition after the initial PEARL funding period.

A recruitment plan to attract high quality researchers to establish and sustain a productive group is also required in this section, along with a risk management plan.

3.4. Ethical Issues
Any ethical issues arising during the course of the project should be highlighted in this section, along with an explanation of how they will follow the FNR, institutional, and national guidelines. For further details, see section 4.1 – “Legal and Ethical Requirements.”
4. Profile and Motivation of Candidate

The candidate should present their motivation to set up their research programme in the given research institution in Luxembourg, and why they are the best candidate to successfully complete this programme. Through a narrative description of the candidate’s relevant strengths, talents, and experiences, they should demonstrate their added value to the host institution, as well as the described PEARL research programme.

Key outputs and achievements should be described in relation to the FNR-defined dimensions of “Excellence in Research.” The FNR assesses and evaluates “Excellence in Research” as the contributions that a researcher makes towards part or all of the following dimensions:

1. SCIENTIFIC QUALITY – by making significant and international visible scientific advances (in terms of understanding, method, theory and application), across and within disciplines.
2. PUBLIC OUTREACH – by helping the development of a research culture through public engagement actions, improving scientific literacy, raising awareness of the added value of research in tackling societal challenges and stimulating a critical mind-set within society.
3. TEACHING AND TRAINING – by making innovative contributions in graduate and postgraduate teaching and by educating a critical mindset and training highly skilled people with career opportunities within and outside academia.
4. SOCIETAL IMPACT – by informing policy debate and decisions by research evidence and close interaction with societal stakeholders and by providing solutions to the needs of society.
5. ECONOMIC IMPACT – by strengthening industry/private sector through collaborative efforts between the public research organisations and industry; by enabling the transfer of research findings and know-how to the private sector and by stimulating entrepreneurial activities within the public research institutions.
6. SHAPING THE RESEARCH SYSTEM – through innovating in research management, and by creating an institutional environment that nurtures talents, stimulates outstanding research, and fosters entrepreneurial spirit.

An academic/scientific CV of the candidate, including list of publications, PhD supervision and review responsibilities, teaching, professional memberships, etc. should be provided in the annexe.

8.3. Proposed PEARL Budget

The Excel Budget Annex provides formats for an indicative breakdown of estimated expenditure and of the funding expected from the FNR. Please also refer to the present financial guidelines for specific rules concerning each budget heading.

The budget sheet is subdivided into direct costs and indirect costs. Duplicate the sheet if additional partner institutions form part of the consortium.

Direct costs and indirect costs designate estimated expenditures that are needed for the implementation of the project.
The excel sheet also provides space to indicate external financial contributions which designate funding that is received by the institution from other sources than their own or the PEARL. The total budget of a project = the PEARL contribution + external financial contribution + the institute’s own financial contribution.

The budget table must be completed for each phase of the programme and each contracting partner (copy the sheet for additional partners), giving an estimate of the eligible expenditure required and the amount of funding expected from the FNR. Only one sheet should be filled out per institution.

For further details, see the next section “Financial guidelines for PEARL applicants”

9. Financial guidelines for PEARL applicants

The FNR funding support within the PEARL programme is limited to 5 years and can amount up to 3 M€ in general and up to 4M€ for proposals that have substantial requirements regarding experimentation and instrumentation

In addition to the FNR grant, a financial contribution by the host institution is expected, as PEARL should be understood as a joint investment. No minimum numerical amount for the contribution by the host institution is set but it is expected that the host institution will provide at least the equivalent of the 5 year salary of the candidate as well as the regular starting package for the position the candidate will occupy (e.g. 1 PhD position, basic year travel, consumables fund etc.).

Please note the following requirements of the budget:

- It is required to include a research project manager as a part of the institutional contribution in order to ensure an efficient and effective management of the overall PEARL project. This position can be 50% for the first year, but must move to 100% from the second year onwards. This is a new FNR requirement as of PEARL call 2021.

- The FNR will not provide overheads in the frame of PEARL.

- The contribution and commitment by the host institution will be a factor in the evaluation of the proposal.

Applicants need to provide budgetary requirements for a period of 10 years after the PEARL project start. The budget outline (excel sheet provided) should provide a comprehensive overview of all costs related to the PEARL project for the 10 year timeframe. All revenues including the financial support of the host institution, the FNR PEARL programme and all other already granted funding sources (e.g. FNR-AFR, FP7, company involvement, etc.) should be listed. Furthermore estimations (or targets regarding additional competitive funding should be provided in order to allow for the assessment of the sustainability of the programme beyond the PEARL support period.

The proposal should also provide justification for the financial support requested from the FNR in the Proposal Project Description document (in the implementation plan section).
9.1. Eligibility of expenditures

The application should provide indicative amounts for the budget headings for direct costs and show external financial contributions (by research institution and other sources). Certain types of expenditure may be indicated on a lump-sum basis (e.g. if they relate to operations routinely performed by the partner in question), provided the expenditure does not differ significantly from the actual cost and these operations are acceptable to the FNR.

During the implementation of the project, the PEARL grant holder may move budgets between budget headings but should notify the FNR in the regular project reports.

Direct costs and indirect costs designate estimated expenditures that are needed for the implementation of the project. The FNR uses the following budget headings as defined below:

- Direct Costs
  - Personnel Costs
  - Equipment
  - Consumables
  - Travel costs
  - Subcontracting
  - Other costs

- Indirect costs

The PEARL funding may not have the purpose of producing a profit for the beneficiary. The PEARL funding must not result in a duplicate funding of operating costs, acquisition costs or staff costs. The expenditure listed must be essential for implementation of the research programme.

The FNR agrees that some of the information requested for the various budget headings can only be given at the application stage if a candidate is already known. In case a PEARL award is granted without a candidate the budget will have to be discussed and agreed upon at the time of contract negotiation stage.

Please note that all FNR-funded projects beginning on or later than January 1st, 2017 are subject to the FNR’s Open Access Policy¹ for all scientific publications resulting from the project.

9.2. Direct Costs

VAT is not an eligible cost in case the institute can reclaim VAT from the Luxembourg tax authorities in conformity with Luxembourg indirect tax regulation.

Direct costs are expenditures that are to be directly incurred for a project and only that project and are supported by an auditable record.

¹ http://storage.fnr.lu/index.php/s/9k72EH61fXGL9oX/download
**Personnel costs**

The payroll costs of all staff, full or part-time, who will work on the project, and whose time can be supported by a full audit trail may be included. The need for such staff should be justified in the application. The FNR will not cover costs of persons already funded by the Government or by other funding sources.

PhD Students may be covered by the PEARL funding.

The PI will have the possibility to adapt the profile and time-on-project for the personnel during the implementation of the project.

The FNR requires a research project manager as a part of the institutional contribution. This position can be 50% for the first year, but must move to 100% from the second year onwards.

**Equipment**

This heading provides for new equipment dedicated to the project. This includes but is not limited to laboratory/workshop equipment (including computers and servers), software and installation costs.

Please indicate in the relevant section of the **Proposal Project Description**:

- the nature of the equipment
- its estimated unit cost and number of units
- its relevance to the project
- the necessity of the equipment taking into account the current equipment of the institution
- its expected useful life (technical and financial) and its use beyond the project
- its use by other research groups/institutions (if applicable)

**Consumables**

Indicate the nature (chemicals, glassware, etc.) and the estimation of the total costs. The total requirements can be indicated as a lump sum.

**Travel Cost**

The FNR will cover the expenses for travel, subsistence and conference fees. Expenditures should be in accordance with an institution’s own regulations. The total requirements can be indicated as a lump sum.

**Subcontracting**

This line provides for expenditure on services provided by subcontractors. Contracting partners may subcontract specific services (limited in time) which are essential for the project but do not represent core elements of the project work, which cannot be directly undertaken by one of the partners and where this proves necessary for the performance of their work under the project. In case the subcontracted service fulfills these criteria, please
describe the service, indicate the price (market price) and specify the reason why you resort to a third service in the application form:

- Why an expert or technical assistance is needed
- How many hours’ work the subcontractors are expected to provide
- All covered costs, must be substantiated

Subcontracting cannot exceed 25% of the total FNR contribution, and must follow these rules:
1. The subcontractor (person and institution) has no IP rights
2. The subcontractor has no publication rights on tangible project outputs
3. Consultancy fees for scientific advisory boards set up by the PI are not eligible project costs
4. A ‘Non-contracting partner’ cannot be a ‘Subcontractor’

Other costs

This heading provides for costs that are not reflected in the budget sheet. They include but are not limited to:

- Documentation (not expected in institutional libraries)
- Rental/access charges for equipment or analysis costs.
- Field work/fees
- Recruitment and advertising costs for staff directly employed on the grant
- Equipment related items, such as relocation, maintenance (external contracts/agreements)
- Recruitment and advertising costs for staff directly employed on the grant
- Scientific publications: conference proceedings, PhD thesis, book chapters and scientific monographs related to the project

Please note:

Open Access fees and other fees (e.g. page charges) related to scientific articles are no longer eligible for funding as part of FNR funded projects. Article processing charges (APCs) of Open Access publications (scientific articles or monographs) can only be refunded through the FNR’s “Open Access Fund”, and if fulfilling the FNR requirements. See the Open Access webpage for more information. The FNR requires that all scientific articles related to FNR-(co)funded projects are published in Open Access and that scientific monographs are published in Open Access whenever possible.
5.4. Indirect Costs

Overhead

The FNR does not provide funding for indirect costs with the PEARL programme. This heading allows providing information on overheads which are all the structural and support costs of an administrative, technical and logistical nature which are cross-cutting for the operation of the institution’s various activities and cannot therefore be attributed in full to the project. They are considered as an additional financial contribution by the Host Institution.

5.5. Funding sources and competitive funding targets

The Funding Sources columns of the excel form provide information on the various sets of funding sources that allow to cover the estimated costs of the research programme. We distinguish between:

- **Institutional contribution:** The direct financial support by the institution to the project, (i.e. direct contribution not including the overhead part which is considered a separate contribution by the host institution).

- **FNR PEARL contribution:** Positions and items that will be covered by the PEARL grant.

- **Other secured funding:** Additional sources of funding (for example: donation by a charitable organisation, support by industry, ongoing grants etc.). Only provide information on funding that has already been granted (i.e. the commitment that is given and funding decision is not pending).

- **Competitive funding targets:** Estimation of the additional funding that will be sought by the research group throughout the course of the programme. These targets should be provided in order to allow for the assessment of the sustainability of the programme beyond the PEARL support period.