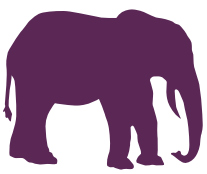
FNR

CORE

MULTI-ANNUAL THEMATIC RESEARCH PROGRAMME

FONDS NATIONAL DE LA RECHERCHE

Peer review guidelines



www.fnr.lu/core

Fonds National de la Recherche Luxembourg

PEER REVIEW GUIDELINES

CORE 2020 CALL

These guidelines for reviewers and panel members explain the FNR's peer review process and explain how to evaluate proposals for the 'CORE Multi-Annual Thematic Research Programme'.

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Changes to the previous calls:

The CORE call as of 2020 is linked to the revised National Research Priorities for Luxembourg as retained by the Government on 20th December 2019.

Further call information, forms and guidelines are available on the FNR webpage http://www.fnr.lu/funding-instruments/core.

1. Background Information

1.1. Objectives of the CORE Programme

CORE is the central programme of the FNR. A **multi-annual thematic research programme**, the prime objective of CORE is to strengthen the scientific quality of Luxembourg's **public research** in the country's **National Research Priorities** (section 1.2).

In the eyes of the FNR, high quality research capacities form the essential pool of knowledge and expertise from which **social, environmental** and **economic impact** emanate. CORE projects should this directly contribute to the **strengthening of the research competences** in the priority fields and be of **international competitiveness**. CORE aspires to create strategic national resources and an increased visibility in the international research community.

The CORE programme should contribute to the

- Funding of **high quality scientific research**, leading to the generation of new knowledge and **scientific publications** in the leading international peer-reviewed outlets of the respective fields;
- Development of a strong research basis in Luxembourg which can be exploited for **sustainable long-term socio-economic and environmental benefits**;
- Advancement of the research group or institution in view of **international visibility** and critical mass;
- **Training** of doctoral students and advancement of the involved researchers in general.

1.2. National Research Priorities for Luxembourg in 2020 and beyond

With CORE the FNR provides funding for high quality research projects in the following National Research Priorities. The revised National Research Priorities for Luxembourg have been developed in close cooperation with the Ministry of Higher Education and Research (MESR) during 2018 and 2019. This follows a recommendation made by the OECD in its 2016 report on the Luxembourg innovation system.

Four interdisciplinary research priority areas to prepare Luxembourg for the future[1]

At the top-level, the national research and innovation strategy defines four research priority areas, which have emerged to be 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**

[1] source: "National Research and Innovation Strategy for Luxembourg",published by the Ministère de l'Enseignement supérieur et de la Recherche, 12/2019

These areas are not considered as being distinct and independent from each other, but as areas that mutually influence each other, so that the sub-themes that define each area can also have ramifications into other areas.

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

Area: Industrial and Service Transformation

Integrative materials science and technology
- Multiscale modelling in materials science and physics
- Materials discovery through machine reinforced learning
- Fundamental phenomena defining materials function and devices
- Interface-dominated materials
- Advanced manufacturing: multifunctional, multiclass, and multiscale materials, and their implementation
- Physics of active and living matter
- Materials life cycle
- Scientific instrumentation and characterization

Trusted data-driven economy and critical systems
- Security and cybersecurity, reliability and trust
- Cyber-physical systems

Future computer & communication systems

Autonomous and intelligent systems and robotics for earth and space

Space telecommunications, earth observation and space resources
- Resources in space
- Remote sensing and combination with multiscale data

Fintech/RegTech and transformative applications of distributed ledger technologies

Fundamental tools and data-driven modelling and simulation

Area: Personalised Healthcare

Complex biomedical systems – data and models
- Effective collection and deconvolution of complex biomedical data
- Multi-scale and mechanistic models

Precision medicine, including environmental, lifestyle and socio-economic factors
- Innovative molecular disease models
- Common mechanisms between diseases – mechanism-based stratification
- Environmental, lifestyle, and socio-economic impact on mechanisms of diseases

Understanding, preventing, and treating the health-disease transition
- Longitudinal dynamics of diseases
- Multifactorial intervention strategies
- Innovative clinical trials

Data-driven healthcare.
- Trusted digital health systems
- Health informatics and implementation in the healthcare system

Area: Sustainable and Responsible Development

Climate change: energy efficiency and smart energy management; resilient eco- and agrosystems

- Resilient water systems
- Environmental monitoring
- Transition towards sustainability: energy efficiency
- Sustainable urban development and smart cities
- Smart energy systems

Economic: green sustainable finance / circular and shared economy

- From waste to product
- Sustainable behaviours

Social: migration and social cohesion / cultural identities, cultural heritage and nationhood

- Social cohesion and inequalities
- Societal transformation and labour market dynamics
- Household finance and risk management
- Migration and integration
- Cultural identities and nationhood
- Contemporary history, memories studies and public history
- Digital humanities

Responsible development: regulations and ethics for a data-driven society

- Regulation and supervision of markets
- Ethics and sustainability

Area: 21st Century Education

Innovative digitally enhanced learning and assessment environments

- Efficient learning environments
- Digital learning and human-machine interaction

Learning in a multilingual and diverse society

Equality of educational opportunity

Adult education, up/re-skilling and lifelong learning

1.3. CORE Junior Track

In view of providing non-established PIs with an adequate framework for first project applications, the FNR has developed a 'Junior Track' within CORE. The CORE Junior Track targets **early career-stage researchers** who have been awarded little or no own project funding yet but who wish **to establish their independent research line**. It is therefore understood that the PIs will work on the CORE project for a large percentage of their time.

The 'Junior Track' applications are processed and evaluated like a standard CORE proposal and the **same high peer-review standards** apply. However, reviewers should take into account that these **starting investigators do not have an extensive track record** concerning project management and generally have little preliminary data related to the proposed project. They should however have enough literature review or preliminary studies to show that the project concept is feasible.

To off-set the inexperience of the PI, Junior Track projects are **restricted in size** and foresee guidance through a **local scientific advisor and a mentor abroad.** The mentor is an established foreign researcher who should provide independent advice on the scientific orientation of the project and career development as well as help establish an international network.

1.4. International Co-funding

The FNR has signed **cooperation agreements** with the following funding agencies:

- Deutsche Forschungsgemeinschaft (DFG, Germany);
- Schweizerischer Nationalfonds (SNF, Switzerland);
- Fonds zur Förderung der wissenschaftlichen Forschung (FWF, Austria)
- European Molecular Biology Laboratory (EMBL);
- Fundação para a Ciência e a Tecnologia (FCT, Portugal)
- National Centre for Research and Development of Poland (NCBR, Poland);

By signing these cooperation agreements, the FNR intends to support **funding of bi-lateral projects** between Luxembourg researchers and their colleagues abroad.

These projects will be reviewed like a standard CORE proposal and according to the procedure which has been agreed upon between the FNR and the international funding agencies.

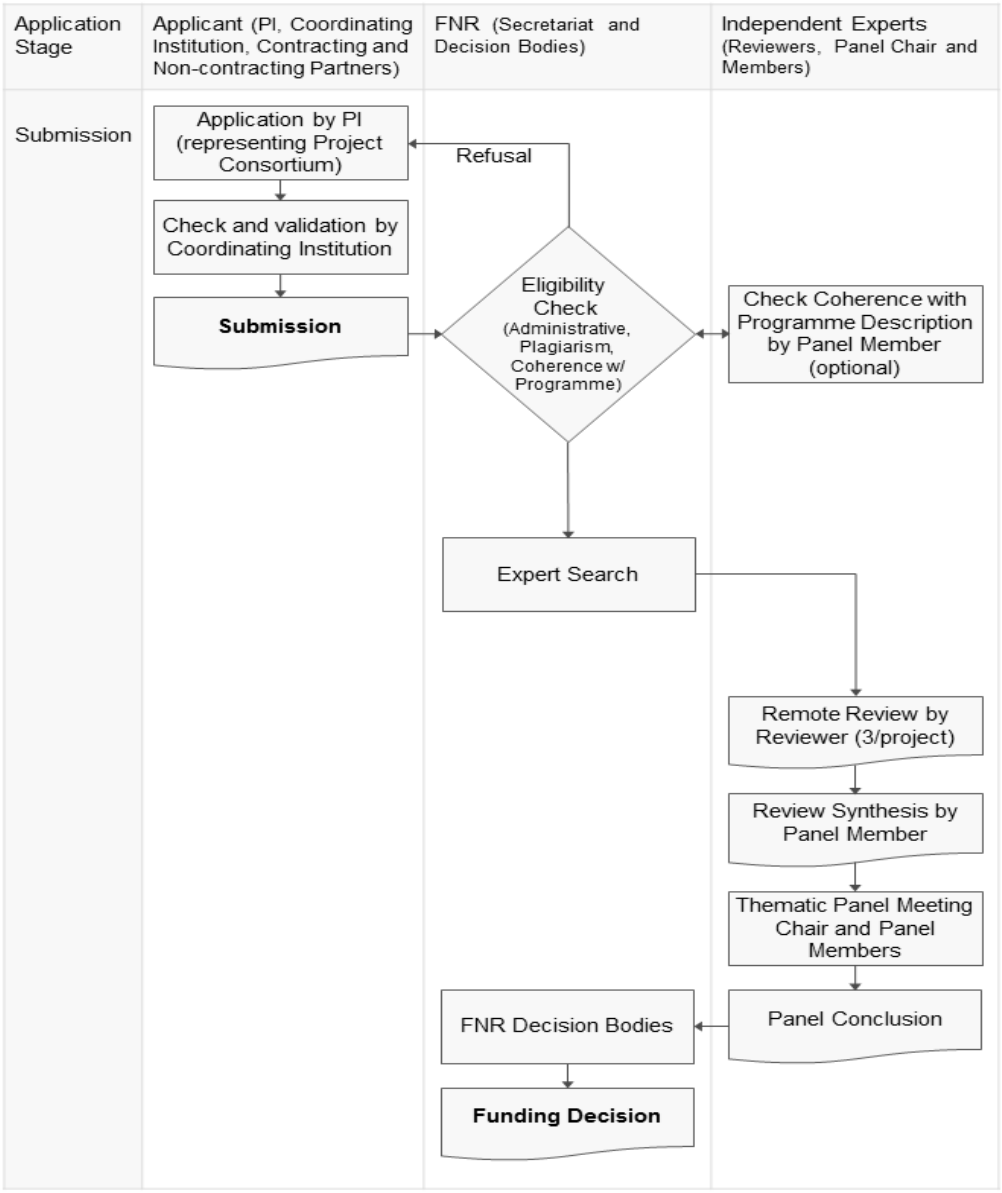
2. Review Process

The CORE Peer Review process guarantees an independent, state-of-the-art evaluation of the application which has the objective to select the research projects reflecting the highest **scientific quality** (http://bit.ly/FNRselectionprocessyoutube).

The CORE review process consists of the following stages:

- Proposals undergo an administrative eligibility check;
- Eligible proposals are peer-reviewed by independent, international researchers;
- A thematic expert panel rates the proposals and recommends funding;
- The FNR decision bodies select the projects to be funded based on the recommendation by the thematic expert panel;
- The funding decision is communicated to the applicants.

2.1. Flow Chart of the CORE Peer Review Process



2.2. Administrative Eligibility Check (done by the FNR secretariat)

Prior to enterening the peer-review process, applications undergo an administrative check at the FNR on the basis of the following criteria:

- Proposals must be submitted before the deadline;
- Proposals must be complete;
- Proposals must respect the maximum length and have to be written in English;
- Proposals must be submitted by an eligible FNR beneficiary organisation;
- The PI(s) must fulfill the eligibility criteria set out in (set out in the Application Guidelines, chapter 1.2. Eligibility);
- The proposed research topics must fit into the National Research Priorities.

The PI must be an experienced researcher who holds a doctoral degree at the date of the submission deadline for the proposal. Furthermore, the FNR requirements for principal

investigators and supervisors within FNR funded projects apply. In any case, the internal rules of the coordinating institution need to be respected. Applications not conforming to one of these elements are rejected at this stage and are not peer-reviewed.

In addition, **research misconduct** e.g. provision of false information, plagiarism or falsification of data, may result in a rejection of the proposal. Applicants must comply with the 'FNR Research Integrity Guidelines' accessible under http://www.fnr.lu/guidelines.

2.3. Peer-Review Process

Each proposal is usually sent to **three international reviewers** selected by the Programme Manager in charge based on their expertise in the field of the proposal and taking care that conflicts of interest are avoided. Selected reviewers are asked to complete a written evaluation (using the 'Review Form') according to the following criteria (see chapter 3. Evaluation Criteria):

- Innovativeness of idea and scientific relevance
- Appropriateness of the approach
- General feasibility of the project
- Expected outcome and impact of results
- In addition for CORE Junior: Contribution to the advancement of career

In the second step of the peer-review process, a member of the thematic **expert panel** assesses the proposals assigned to him based on the written anonymous evaluations and summarises his funding recommendation in the 'Review Synthesis'. Proposals are discussed by the thematic expert panel during the panel meeting (taking into account the arguments summarised in the 'Review Synthesis') and a funding recommendation is issued. The main arguments leading to the final panel funding recommendation are listed in a report ('**Panel Conclusion**') which is sent to the applicants by the FNR together with the anonymous written evaluations of their proposal.

3. Evaluation Criteria

The scientific merit of the proposal is assessed based on the selection criteria below. For CORE Junior track proposal, the assessment of the criteria has to take into account the specifics detailed in section 1.3.

1. Innovativeness of idea and scientific relevance

The FNR expects:

- High scientific quality, competitive at an international level;
- Research question(s) and the testable hypotheses are original and clearly formulated in the proposal;
- Preliminary data related to the proposed investigation;
- Preliminary data related to the proposed project. PIs must have enough literature review or preliminary studies to show that the project concept is feasible;
- Projects to have the nature of a typical research project – funding of infrastructure or of data collection is not intended if this is not associated with the answering of a clear research question; and
- Direct contribution to advancements of the current state-of-the-art.

With the result of:

- Strengthening of the capacities of the research groups in their field of research;

- Increasing their international visibility within the research community.

2. Appropriateness of the approach

Methods proposed have to be:

- Sound;
- Rigorous;
- State-of-the-art, and
- Appropriate for the proposed investigation.

3. General feasibility of the project

- Project to be carried out and led by an experienced researcher with a proven track record in the field;
- Applicant team with the expertise and complementary knowledge required for the execution of the proposed project;
- Project plan needs to be efficient and ambitious, but feasible during the proposed timeframe;
- Allocated human resources and budget need to be appropriate (reviewers should assess the cost effectiveness of the project in terms of person*months engaged on the project and the proposed costs of equipment and consumables; overstaffed projects are not recommended);
- Main infrastructure necessary for the successful execution of the project is available at the start of the project;
- PhD projects must be clearly described and feasible;
- Collaborations with partners from the public or private sector are encouraged but not explicitly requested. In any case, the added value of the collaborations needs to be justified.

4. Expected outcome and impact of results

- Scientific publications and pre-prints (pre-prints must be freely available from a pre-print server and should be properly referenced via a link to the pre-print or DOI);
- Patents (if applicable);
- Data, reagents, software (if applicable);
- Doctoral and other training: Supervisory skills and available learning environment for PhD or Post-doc training;
- Development of core competences of the research group in view of gaining international visibility and critical mass;
- Dissemination of the research results among the wider public;
- Planned strategies for generating impact during and after the project as well as the description of how potential users are to be involved in the project in view of exploitation of the results (i.e. exploitation of intellectual property generated, raising of scientific awareness, improvement of quality of life, etc. only if applicable);
- Value of intended economic, environmental and societal impacts.

5. In addition, for CORE Junior: Contribution to advancement of career

- CORE Junior PIs' track records are checked according to their career stage,
- Track record of the mentor and hosting group;

- Contribution of the mentor and the hosting group to the advancement of the junior PI's autonomous research career;
- Training and mentoring plan: contribution towards the development of the junior PI's own research line and project management skills;
- Feasibility: ambition of the project matches the junior PI's experience in research.

Additional specificities:

- Disciplinary, interdisciplinary, collaborative and cross-institutional projects will be fostered by the FNR. Researchers are encouraged to link methods, concepts and approaches from various disciplines to solve joint research questions that lead to new scientific insights and solutions that are beyond the scope of a single discipline.
- The FNR formally allows more than one PI on CORE project grants. This policy is intended to maximize the potential of collaborative science as well as to facilitate interdisciplinary research. To include a "Co-PI" is the decision of the applicant's institution and investigators, and must be based on the needs of the proposed research project.

4. Role of Persons Involved in the Peer Review Process

4.1. Role of Reviewers

Reviewers are **international, independent experts in a specific subject** who are invited to remotely evaluate a research proposal closely related to their field of expertise and to submit a written review.

They are requested to:

- Carefully read the 'Programme Description' and the 'Peer Review Guidelines';
- Sign a 'Confidentiality Agreement' (sent to the reviewer by email);
- Thoroughly read the assigned proposal;
- Complete and submit a 'Review Form' providing comments and scoring the proposal.

When evaluating research proposals, reviewers should comment briefly on each selection criterion to the best of their abilities, their professional skills, knowledge and ethics.

As a signatory of the DORA Declaration, reviewers should evaluate quality and impact independently of journal-based metrics and give value to all types of research outputs.

Additional details can be found in chapter 7. Guidelines for Reviewers.

4.2. Role of Panel Members

The FNR establishes **thematic expert panels** composed of **high-level scientists**. One member of the panel is designated as chair. The overall objective of the panel is to analyse the reviews, propose a selection of projects that fulfil the CORE selection criteria, rank them, and issue a funding recommendation.

To achieve this, each panel member is supposed to:

- Sign a 'Confidentiality Agreement';
- Carefully read the 'Programme Description' and the 'Peer Review Guidelines';
- Read the proposals assigned to him and the related reviews;
- If required, check the "thematic fit" of the proposals in the National Research Priorities for Luxembourg(together with other panel members, if required);

- Evaluate each proposal and draft a synthesis of the reviews (resolving any possible conflicting reviews) by completing and submitting a 'Review Synthesis Form';
- As a signatory of the DORA Declaration, evaluate quality and impact independently of journal-based metrics and give value to all types of research outputs;
- For resubmissions, carefully check if the proposals have undergone substantial revision and if the previous reviews and panel conclusions have been taken into consideration;
- Orally present the 'Review Synthesis' during the 'Panel Meeting';
- Prepare the 'Panel Conclusion' after the panel meeting.

During the '**Panel Meeting**', the panel members discuss the reviews and the review syntheses in order to rank the proposals according to the 'CORE Selection Criteria' (see 3. Evaluation Criteria).

At the end of the meeting, the panel is asked to comment on the overall quality of the proposals and on the evaluation procedure, and to give recommendations for future calls.

Additional details can be found in chapter 8**.** Guidelines for Panel Members.

4.3. Role of the Panel Chair

The FNR appoints one **'Panel Chair'**. The panel chair plays a pivotal role in the CORE programme.

His/her role is to:

- Chair the 'Panel Meeting';
- Check the "thematic fit" of the proposals in the National Research Priorities (together with other panel members, if required);
- Represent the specific CORE panel in the FNR's Scientific Council and if necessary in the competitive common meeting;
- Present the panel conclusions and recommendations to the FNR's Scientific Council.

The 'Panel chair' is supported by the 'FNR Programme Manager' in all his actions.

4.4. Role of the FNR Programme Manager

The 'FNR Programme Manager' supports all involved experts during the evaluation process. In cooperation with the 'Panel chair', the 'FNR Programme Manager' takes care that the FNR rules and procedures are respected. If necessary, the 'FNR Programme Manager' provides the panel with background information to the Luxembourg research landscape and the national context in general.

The FNR staff does not provide any information regarding the status of the applications to the applicants while the evaluation procedure is in progress and until the funding decision has been taken by the Board of the FNR. The FNR staff does not provide any information regarding the name of the reviewers and panel members involved.

5. Confidentiality and Conflict of Interest

5.1. Confidentiality

All research plans and evaluation statements are confidential documents. Application documents should therefore be handled with care and treated as confidential before, during and after the evaluation process.

Reviewers and panel members must not disclose any information concerning application documents or evaluations to outsiders, nor should they use confidential information to their own or any other party's benefit or disadvantage.

Reviewers and panel members must not communicate with applicants. Reviewers and panel members' advice to the FNR on any proposal may not be communicated by them to the applicants or to any other person. Panel members are not allowed to disclose the names of other experts participating in the evaluation. Where proposals are posted or made available electronically to reviewers, who then work from their own or other suitable premises, the reviewer will be held personally responsible for maintaining the confidentiality of any documents or electronic files sent and returning, erasing or destroying all confidential documents or files upon completing the evaluation as instructed. Reviewers and Panel members may not show the contents of proposals or information on applicants to third parties (e.g. colleagues, students, etc.).

Reviewers contacted by anyone who has questions about application documents or evaluation statements, should direct these people to the FNR contact person.

5.2. Conflict of Interest

All persons involved in the review process are required to declare any personal interests according to the criteria below. The FNR will check the level of the conflict of interest.

Circumstances in which a conflict of interest may exist:

A disqualifying conflict of interest exists if a person:

- was involved in the preparation of the proposal;
- has had close collaboration with the applicant(s) (e.g. has co-authored and published an article with the applicant during the past three years);
- stands to benefit directly if the proposal is accepted (e.g. is involved in the publication or exploitation of the potential results of the proposal);
- has a close family relationship with any person working for an applicant organisation in the proposal. This includes:
  - a spouse, child, grandchild, sibling, parent, grandparent,
  - a person otherwise especially close (e.g. fiancé/e or a close friend), and/or their spouses,
  - a sibling of a parent or his/her spouse, a child of a sibling, previous spouse,
  - a child, grandchild, sibling, parent or grandparent of a spouse and/or their spouses, a child of a sibling of a spouse,
  - or a half-relative comparable to the above mentioned.
- is a director, trustee or partner of an applicant organisation;
- is employed by one of the applicant organisations in a proposal;
- is in any other situation that compromises his or her ability to evaluate the proposal impartially.

A potential conflict of interest may exist, even in cases not covered by the clear disqualifying conflicts indicated above, if a person:

- was employed by one of the applicant organisations in a proposal within the previous three years;
- is involved in a contract or research collaboration with an applicant organisation, or has been so in the previous three years;

- is in any other situation that could cast doubt on his or her ability to evaluate the proposal impartially, or that could reasonably appear to do so in the eyes of an external third party.

Persons involved in the peer review process must also declare a conflict of interest at any time during the process.

5.3. Inability to Perform Obligations and Termination

If for some reason the reviewers and panel members are not able to fulfil their obligations for a given work, the FNR should be informed immediately. The work cannot be delegated to another person without the prior written agreement of the FNR.

6. Style Recommendations for Written Evaluations

The anonymised review documents are sent to the PI. Hence, reviewers should avoid to put anything in the assessment that will identify them, e.g. by making references to where they have worked or whom they have worked with.
The following style recommendations[2] should guide reviewers during the composition of their evaluations:

- The assessment should be more than just a rating and needs good justification for the arguments;
- 1,5 pages of substantive comments may be sufficient – not too long but enough to be able to back up the assessment and the funding recommendation;
- The overall rating should match the comments – otherwise the panel and the applicants might not have confidence in the assessment;
- Generalists in the field should be able to understand the comments - care has to be taken not to adopt a bias in favour of work in the expert's own specialism i.e. "x is a vitally important area / scarce discipline etc.";
- References to other key papers in the field are useful;
- The strengths and weaknesses of each criterion and of the whole proposal should be set out in a structured way;
- Feedback should be balanced with constructive criticism and supported with examples;
- Particular concerns should be highlighted;
- Where appropriate, alternative approaches to improve the proposal should be suggested;
- Any unintentional bias against high risk high pay-off proposals or against early career investigators (CORE Junior PIs) should be avoided.

[2] Inspired from « Reviewers Handbook », 2013, MRC.

7. Guidelines for Reviewers

Before accessing a proposal', reviewers have to sign a **'Confidentiality Agreement**'.

Reviewers are invited to read the following documents before completing the '**Review Form**':

- The '**Programme Description**' explaining the objectives of the programme;
- These '**Peer Review Guidelines**';
- The assigned **proposal**;
- The '**Review Form**'.

Reviewers are invited to complete and submit the '**CORE Review Form**'. A written evaluation and a rating for each criterion should be provided as requested in the form and explained below.

7.1. Ethical Considerations

Comments should be provided only if the proposal gives rise to any ethical issues.

7.2. Evaluation of the Proposal

Reviewers should concisely comment on each selection criterion based on the descriptions of the selection criteria in section 3. Evaluation Criteria, and to the best of their abilities, professional skills, knowledge and ethics.

Assessments should be made based on scientific content rather than journal-based publication metrics, such as Journal Impact Factors or the identity of a journal.

The value and impact of all research outputs ((including datasets and software, training of researchers, intellectual property) in addition to research publications should be considered, as well as a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

Reviewers should also consult the style recommendations in section 6. Style Recommendations for Written Evaluations. It is essential that the review is based on coherent and sufficiently detailed comments or arguments to help the FNR to reach a decision and subsequently formulate a meaningful 'Panel Conclusion'.

7.3. Evaluation of CORE Junior Track Proposals

The 'Junior Track' applications are processed and evaluated like a standard CORE proposal and the same high peer-review standards should applied. However, reviewers should take into account that Junior PIs do not always have an extensive track record on project management and generally have ittle preliminary data related to the proposed project.

CORE 'Junior Track' proposals use the standard CORE '**Project description form**' with additional fields where applicants describe how the project, the training and mentoring aspects will contribute to the **advancement of his/her research career**.

7.4. Assessment of the written reviews

The assessment of the selection criteria goes from excellent to fair/poor.

An overall assessment of the proposal and **justification for the funding recommendation** is provided in the table below. The following points should be addressed in the overall assessment of the proposal:

- most important **strengths and weaknesses** of the project proposal,
- any **modifications** to the proposal that are necessary,
- any other comments justifying the funding recommendation.

Final Score	Explanation
A+	Proposal of excellent quality and outstanding international standards that should be funded as proposed. The proposal scores excellent on all or most criteria.
A	Proposal of very good quality and high international calibre that should be funded. The proposal scores very good (and even excellent) on all or most criteria.
B	Proposal of very good quality, but with shortcomings on one of the selection criteria. The proposal could be improved to become an excellent proposal.
C	Proposal of insufficient quality and with major shortcomings on one or more selection criteria.

Reviewers should also shortly indicate their domain of expertise, especially if the proposed project has an inter- or multidisciplinary approach.

8. Guidelines for Panel Members

Before evaluating a proposal, Panel Members have to sign a **'Confidentiality Agreement'**.

Panel Members are invited to read the following documents before completing the '**Review Synthesis Form**':

- The '**Programme Description**' explains the objectives of the programme;
- These '**Peer Review Guidelines**';
- '**Online Application Form**' (including the Project Description and the Project Plan and Budget);
- **Reviews** written by independent experts (available at the latest 10 days before panel meeting);
- '**Review Synthesis**'.

Panel Members are invited to complete the '**Review Synthesis**' for the projects assigned to them, and return the forms to the FNR secretariat at least 10 working days before the panel meeting in order to allow enough time for Panel Members and FNR staff to read the documents.

8.1. Guidelines for Writing a Review Synthesis

Before drafting the review synthesis Panel Members are invited to consult the style recommendations section **6. Style Recommendations for Written Evaluations**.

The drafting of the '**Review Synthesis**' based on the written reviews needs to fulfil additional requirements in order to improve the comprehensibility of the funding decisions:

- The arguments in the review synthesis should be based on the arguments provided in the written reviews. The individual comments by reviewers do not need to be repeated. Instead, the '**Review Synthesis**' should **clearly state how the individual comments of the reviewers lead to the overall conclusion**;
- Any **new** positive or negative **argument raised** (which does not appear within any of the written reviews) **needs to be clearly highlighted and justified** with evidence;

- For resubmissions, carefully check if the proposals have undergone substantial revision and if the previous reviews and panel conclusions have been taken into consideration;
- **Major conflicting** arguments stated in different reviews should be resolved by proposing a justified opinion;
- Factual information which has a major influence on the funding decision needs to be checked on validity;
- Criticism should be supported with examples;
- Possible modifications or recommendations to improve the quality of the project should be indicated;
- The '**Review Synthesis**' needs to be **coherent** throughout the text.

The impact of each statement for the overall assessment should be explained. The proposed funding decision should be comprehensible and duly justified. The main argument(s) which led to a positive or negative funding recommendation need to be unambiguously highlighted. It is essential that panel members respect these recommendations as the '**Review Synthesis**' is the basis for drafting the 'Panel Conclusion' which will be forwarded to the applicants.

8.1.1. Ethical Considerations

Comments should be provided only if the proposal gives rise to any ethical issues.

8.1.2. Evaluation of the Proposal

Panel Members should concisely comment on each selection criterion based on the descriptions of the selection criteria in section **3 Evaluation Criteria**, and to the best of your abilities, professional skills, knowledge and ethics.

The short assessment of each selection criteria should also include justifications for each statement by:

- Highlighting the strengths and weaknesses of the proposal;
- Resolving conflicting assessments of the reviewers;
- Assessments should be made based on scientific content rather than journal-based publication metrics, such as Journal Impact Factors or the identity of a journal;
- The value and impact of all research outputs ((including datasets and software, training of researchers, intellectual property) in addition to research publications should be considered, as well as a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

8.1.3. Assessment of the review synthesis

The assessment of the selection criteria goes from excellent to fair/poor.

An overall assessment of the proposal and **justification for the funding recommendation** is provided in the table below. The following points should be addressed in the overall assessment of the proposal:

- most important **strengths and weaknesses** of the project proposal,
- any **modifications** to the proposal that are necessary,
- **resolving of conflicting arguments** in the remote reviews,
- any other **comments justifying the funding recommendation**.

Final Score	Explanation

A+	Proposal of excellent quality and outstanding international standards that should be funded as proposed. The proposal scores excellent on all or most criteria.
A	Proposal of very good quality and high international calibre that should be funded. The proposal scores very good (and even excellent) on all or most criteria.
B	Proposal of very good quality, but with shortcomings on one of the selection criteria. The proposal could be improved to become an excellent proposal.
C	Proposal of insufficient quality and with major shortcomings on one or more selection criteria.

The experience of the FNR has shown that proposals undergoing major modifications were flawed from the beginning and usually did not reach the objectives. Therefore, projects requiring major modifications should not be recommended for funding.

The **overall assessment** of the proposal should lead to a **final funding recommendation** which has to be consistent with the previous comments to the selection criteria.

8.1.4. Evaluation of the Reviews

Panel Members are invited to mark for the **quality and usefulness of each of the written and anonymous reviews** in terms of:

- Level of detail;
- Comprehensibility;
- Justification of arguments;
- Coherence;
- Expertise of reviewer.

This is for internal FNR use only.

8.2. Panel Meeting

Prior to the panel meeting, the FNR prepares a ranking based on the review synthesis. Proposals not fulfilling the minimal quality criteria (with low scorings by all reviewers) do not need to be discussed in the panel meeting. However, the justification of the low scoring will be checked by the panel.

The panel meeting starts with the actual **discussion of the proposals**. The panel member whom the proposal was assigned to, presents his/her synthesis of the written evaluations, focusing on the following issues:

- Objective of the proposal;
- Fulfilment of the selection criteria, including highlighting possible conflicting statements of reviewers;
- Strengths and weaknesses;
- Overall assessment of the application;
- Necessary modifications of the proposal (if applicable).

If the evaluation of the panel member differs from the written reviews or new information is discussed, a coherent argumentation needs to be presented.

After this short presentation, panel members are invited by the Panel Chair to discuss the evaluation findings and readjust the rating of the proposal if deemed necessary (including argumentation).

After rating all the proposals, the Panel Members discuss which proposals should benefit from a financial support of the FNR.

8.2.1. Panel Conclusion

After the panel meeting, the 'Review Synthesis' needs to be readjusted to reflect the discussion and conclusion of the panel meeting. The '**Panel Conclusion**' serves as the basis for the formal decision process within the FNR. This document should therefore be as comprehensive as possible, clear and unambiguous. A standardised panel conclusion will be used for proposals that have not fulfilled the minimal quality criteria. The '**Panel Conclusion**' and anonymised written reviews are sent to the applicants.