UBC SPARC Resource

NFRF Transformation: LOI Primer

Last updated on November 10, 2024 for the 2024 NFRF Transformation competition.

Preparing for an Eligible and Competitive LOI:

1) Confirm that your project is fully aligned with NFRF's **Interdisciplinarity** requirement; and
2) Conduct a scan of your current research environment to identify existing barriers/challenges to **Equity, Diversity and Inclusion in Research Practice (EDI-RP)**.

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1) Interdisciplinarity

- Interdisciplinarity is central to a successful Transformation project, given its Pass/Fail scoring. This criterion sets the stage for the other four criteria:
  - High Risk, specifically novelty of your approach
  - High Reward, specifically your project's transformative potential
  - Feasibility, specifically your methods/approaches and workplan
  - EDI-RP (including Early Career Researchers, ECRs), specifically how you will support/mentor your ECRs
- NFRF states:
  - Transformation projects must propose an interdisciplinary approach that integrates different disciplinary approaches to bring a novel perspective to address the research challenge. Proposals must **explain how the disciplinary perspectives, methodologies and techniques will be integrated** and must demonstrate that the team has the required expertise to execute the interdisciplinary approach. The proposal must also explain why an interdisciplinary approach is required and/or the added value of this approach to the research problem.
- Ensure that interdisciplinarity comes across as a **constitutive and necessary feature**.
  - Interdisciplinarity should be a **core facet of the project** rather than an 'add-on'. Note that social scientist reviewers were wary of instances in which it seemed as though the 'social science component' was tacked on, rather than integral to the conceptualization of the project.
  - Projects which could be funded by regular Tri-Council funding competitions are **not** eligible for NFRF funding. Be sure to demonstrate how the nature of the problem itself requires a multi-pronged, interdisciplinary approach for transformative success. Additionally, describe how the multi-faceted nature of the problem/challenge requires a unique team comprised of world-leading experts from a range of different disciplines that otherwise would have not come together.
  - **Avoid** proposing a group of projects that could each be funded by a different Tri-Council as this would also be ineligible. Instead, propose integrated studies/methods which require cross-Council funding and avoid siloed projects which each separately align with a single Tri-Council.

2) EDI-RP

- EDI-RP is also scored as a Pass/Fail. A "Pass" requires a clear demonstration of the applicants' commitment to EDI. This requires a **thoughtful review of your current research environment** at all levels – your research group/lab/team, department/faculty, institution and fields/disciplines – to identify existing challenges/barriers to EDI faced by your team.

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LOI Review Process Overview:

LOIs will be assessed by members of the multidisciplinary/multisectoral review panel as follows:
- Interdisciplinarity criterion = Pass/Fail
- EDI-RP (including Early Career Researchers, ECRs) criterion = Pass/Fail
- High Risk criterion = 20%
- High Reward criterion = 60%
- Feasibility criterion = 20%

The review panel will meet virtually to discuss the LOIs and identify the top-rated LOIs which will proceed to the Full Application stage. In the event of a high volume of LOIs, members' ratings (i.e., for High Risk, High Reward and Feasibility) may be used to identify those LOIs to be discussed at the meeting.

Key Components of the LOI:

- **Budget table** (table: budget estimates)
  - New content; be modified at the Full Application stage
- **EDI in Research Design (EDI-RD)** (text box: if EDI-RD considerations are not deemed appropriate for the research, an explanation must be provided)
  - Content can be updated from the NOI stage; cannot be modified at the Full Application stage
- **Project description** (text boxes: Outline of Challenge; and Overview of Approach and Potential Changes)
  - Content can be updated from the NOI stage; cannot be modified at the Full Application stage
- **Research proposal** (attachment: Overview/Introduction (suggested); Novelty of Approach; Interdisciplinarity; Feasibility; and Anticipated Transformation/Change/Impact)
  - New document; to be expanded at the Full Application stage from 10 to 18 pages
- **EDI-RP** (text boxes: Analysis of Context; and Team Composition and Recruitment Processes, Training and Development Opportunities, and Inclusion best practice(s) and relevance, approach and impact details)
  - New content; cannot be modified at the Full Application stage
- **Support of ECRs** (text box: description of ECR inclusion/integration and support/development)
  - New content; cannot be modified at the Full Application stage
- **References** (attachment: proposal citations)
  - New document; can be modified at the Full Application stage

Note: The **text boxes** (EDI-RD; Project description; EDI-RP; Support of ECRs) do not allow formatting, so use capital letters to denote headings in these sections. The **attachments** (Research proposal; References) must be prepared using the NFRF Instructions for Attachments:
1. Any acronyms and abbreviations must be explained.
2. Pages must be 8½" x 11" (216 mm x 279 mm).
3. Text must be single-spaced, with no more than six lines of type per inch.
4. All text must be in black, using the 11 pt Arial font; condensed fonts will not be accepted.
5. Margins must be set at a minimum of ¾" (1.87 cm).
6. In multi-page attachments, pages must be numbered sequentially.
7. The application identification number (i.e., NFRFx-xxxx-xxxxx) must appear at the top of each page.
8. No personally identifying information should be included in the headers and/or footers (e.g., name, PIN, institution, etc.).
9. The name of the document must appear at the top (e.g., Literature references).

Using this Primer:

The rest of the resource provides NFRF information and SPARC guidance on the eight key LOI components listed above (use the hyperlinks provided to navigate directly to these sections within the document). The compiled NFRF information is presented in boxes and includes:
(a) Instructions from How to Submit a Letter of Intent to Apply;
(b) Instructions from the LOI module in the Convergence Portal (**note:** hyperlink requires use of your NFRF portal login and password);
(c) Instructions from the Best Practices in Equity, Diversity and Inclusion in Research guide; and
(d) Relevant Selection Criteria (from competition "Review process" overview) and Evaluation Matrix details.

Note: While SPARC has updated this resource for the 2024 competition, applicants should always refer directly to the NFRF website for official instructions.

Overarching SPARC Tips:

- Team member names **can** be used because the review process is not blind.
- The use of gender-neutral pronouns (i.e., they/their) is considered a **best practice**.
- EDI-type personal information / personally identifying information (e.g., age, gender, racial background) should **not** be included anywhere in the application
    - Applicants must protect the privacy and confidentiality of all team members. Information that identifies the personal information (self-identity information) of any of the team members may result in the application being withdrawn from the competition.
- Affiliation-type identification information **is** allowed
    - Team member affiliations can be included, such as departments, lab groups, etc., because they are not EDI-type personal information.
- While specified only for the EDI-RP and ECR sections, follow the same practice throughout the application: do **not** provide information about the composition of the research team (i.e., a team profile), such as a breakdown of numbers by gender, identity, etc.

Budget table

NFRF LOI Instructions: Enter the planned amount of funds to be spent in each category (direct and indirect costs) for each year of the project.

NFRF Convergence Portal Instructions: Before completing the budget table below, consult the Use of Grant Funds section of the competition overview for information about the eligibility of expenditures for the direct costs of research and the regulations governing the use of grant funds.

You must enter the direct costs for each year of the project for up to six years. The direct costs for each year must be at least $1,600,000 and cannot exceed $3,200,000. The maximum budget for indirect costs is 25% of the direct costs for a given year (e.g., if the direct costs in a year is $2,500,000, then the maximum allowable indirect costs is $625,000 for that year).

SPARC Tip

- Ensure annual direct budget costs are between $1.6M and $3.2M.

- Ask for maximum amount of annual indirect costs in every category and year, which is 25% of the amount of direct research costs requested. This will equate to annual indirect costs of between $400k and $800k.

EDI-RD

NFRF LOI Instructions: Indicate if EDI-RD considerations are appropriate and if they have been integrated into the proposed research. Note that they must be integrated if considered appropriate or you will be unable to submit your application. Provide an explanation if EDI-RD considerations are not deemed appropriate for the proposed research.

NFRF Convergence Portal Instructions: EDI in research design (EDI-RD) involves designing research so that it takes EDI into account, through approaches such as intersectionality, gender-based analysis plus (GBA+), antiracist approaches and disaggregated data collection. Analysis should include consideration of diversity and identity factors such as age, culture, disability, education, ethnicity, gender expression and gender identity, immigration and newcomer status, Indigenous identity, language, neurodiversity, parental status/responsibility, place of origin, religion, race, sexual orientation, and socio-economic status. The purpose of EDI-RD is to promote rigorous research that is sensitive to sex and gender, as well as many other identity factors, such as race, ethnicity, religion, age, and mental or physical disability. These considerations must be integrated into the research design, when appropriate.

SPARC Tip

- Reminder: The Convergence Portal does not allow formatting in text boxes, so use capital letters to denote headings in this section.
- Must select “Yes” or “No” to indicate if EDI-RD considerations are appropriate. If “No”, explain why EDI-RD is not relevant to the proposal.

Project description

NFRF Convergence Portal Instructions: If your proposal is funded, this description will be used for promotional purposes outside the research community to inform the government, the media and members of the public who request information about funded research.

Upon submission of the LOI, you will be unable to make changes to this section during future stages of the competition.

Sections

- Outline of Challenge
- Overview of Approach and Potential Changes

SPARC Tips

- Optimal time for revisions: The following two sections were submitted at the NOI stage; however, should be updated prior to LOI submission. Consider revising them after your Research Proposal and EDI/ECR sections have been written to ensure content alignment.

- Headings: If headings are being used, consider CAPITALIZED HEADINGS because formatting is not possible in text boxes.

Research proposal

NFRF LOI Instructions: The research proposal should address the points below. Ensure you use language that can be understood by a multidisciplinary committee. The allocation of space and the order are not prescribed. The use of headings is highly encouraged.

- Novelty of Approach
- Interdisciplinarity
- Feasibility
- Anticipated transformation/change/impact

Maximum length: 10 pages if written in English; 12 pages if written in French; includes diagrams and illustrations

Sub-sections

- Introduction/Overview (suggested)
- Novelty of Approach
- Interdisciplinarity
- Feasibility
- Anticipated Transformation/Change/Impact

Overall SPARC Tips

- Reminder: This content will be updated at the Full Application stage; where it will be expanded into an 18-page Proposal.
- Section length: Each section should be at least 1.5 pages to ensure you are sufficiently addressing the corresponding criterion as per the Evaluation Matrix elements, leaving ~4 pages to allocate as needed.
- Headings and sub-headings: Use the four Research Proposal headings in the LOI instructions – "Novelty of Approach", "Interdisciplinarity", "Feasibility", and "Anticipated Transformation/Change/Impact" – as your headings, in this order. Then, use the corresponding Evaluation Matrix elements as sub-headings under each, grouping them as needed to present your content clearly/logically (suggestions for how to do this are provided in the following pages).
- Possible added section: Consider an initial "Overview"/"Introduction" to briefly state the central challenge/problem and your overarching project goal. Otherwise, reviewers must wait for this important information until the "Feasibility" section, which is the 3rd criterion to be addressed.
- Manage overlapping content between sections: The criteria contain overlapping elements which increase potential for duplicated content (e.g., Team in "Interdisciplinarity" and Research Team in "Feasibility"). Determine which section will contain the central details, with brief statements ('teasers') elsewhere to create linkages and flow—aim for cohesion over repetition!
- Ensure no "EDI-type Personal Information" (e.g., age, gender, racial background) is included: Applicants must protect the privacy and confidentiality of all team members. Information that identifies the personal

information (self-identity information) of any of the team members may result in the application being withdrawn.

- Affiliation-type identification information, however, is allowed: Although "affiliation of team members (including departments, lab groups, etc.)" details are identifying, they may be included because they are not EDI-type personal information.

INTRODUCTION / OVERVIEW sub-section (suggested)

SPARC Tip

- Briefly summarize the key points of your proposal, including the central challenge/problem, your overarching research goal, your project's novelty and its expected impact.

NOVELTY OF APPROACH sub-section

NFRF LOI Instructions: Explain the approach and how it differs from other approaches taken to address the challenge. Provide a rationale why this approach is likely to succeed.

NFRF Criterion (High Risk ≈ Novelty of Approach): In the context of the Transformation stream, high risk refers to the novelty of the proposed approach to the challenge. Proposals will have to explain:

- why the project is novel, as it relates to the latest methods, concepts, information, and techniques;
- how the approach builds on and benefits from expertise and resources across Canada and/or internationally;
- what makes the approach "world-leading"; and
- why the approach is expected to lead to real change.

NFRF "Exceptional" Rating Definitions for Key Elements from Evaluation Matrix:

- ***Novelty:*** Highly innovative, pioneering a new approach building on the latest methods, concepts, information and techniques.
- ***Expertise:*** Integrates expertise from world-leading experts in all disciplinary areas.
- ***Approach:*** Represents a world-leading approach, a "first of its kind" project.
- ***Cogent (or: persuasive, plausible):*** Highly compelling case for why the approach is likely to succeed where others have failed. (Note: The viability of the project plan is assessed under the Feasibility criterion. The focus of this element is on the persuasiveness of the argument.)

SPARC Tips

- Reminder: This content aligns with the High Risk criterion, which is weighted 20% at this stage.
- To ensure the High Risk criterion is fully addressed, reference the corresponding four Elements (e.g., as sub-headings) and the "Exceptional" descriptors, as relevant, from the Evaluation Matrix: Novelty; Expertise; Approach; and Cogent (or: persuasive, plausible).
- Present your project's novelty and world-leading elements using statements that are accessible to a multidisciplinary review panel.
- Highlight the high-risk dimension of the proposed project by demonstrating that your proposal constitutes a leap rather than an incremental step in the status quo.

  - Explain how your proposed project, approach and assembled expertise are novel rather than simply an extension of existing approaches or the next logical step in an established line of inquiry that is fundable through conventional channels.
  - Keep the “high risk/high reward” proposition central to your proposal (even though NFRF separates them into two criteria). To address the High Risk criterion, emphasize how the effort constitutes a leap rather than an incremental step in the status quo (e.g., “we’re taking a risk/chance that has the potential to lead to higher reward if successful").
  - High risk is often associated with low feasibility, yet Feasibility is another NFRF criterion, so there’s an inherent challenge in creating a project which addresses both criteria. Describe your project challenge as unanswerable without an interdisciplinary approach, and a budget and timeline of the scale provided by this funding opportunity. Consider how this Transformation funding enables your team to do something that you wouldn’t otherwise be able to do (e.g., pursue novel research questions, partner with unexpected new collaborators). Demonstrate why the team you’ve assembled is the ideal one to successfully address this challenge.

- Clearly state and distinguish between scientific and policy questions/issues. In cases where the scientific questions/issues are well-defined, ensure the policy-related outcomes have been fully described in relation to the corresponding questions/issues. In cases where the policy dimension is most prevalent, ensure you the scientific questions/issues have been fully explained.

- Clearly convey to reviewers why this project, why your team, why this approach and why now, under these circumstances?

INTERDISCIPLINARITY sub-section

NFRF LOI Instructions: Describe the interdisciplinary nature of the proposed approach. Explain who will bring the different disciplinary perspectives to the project and how they will be integrated.

NFRF Criterion: Transformation projects must propose an interdisciplinary approach that integrates different disciplinary approaches to bring a novel perspective to address the research challenge. Proposals must explain how the disciplinary perspectives, methodologies and techniques will be integrated and must demonstrate that the team has the required expertise to execute the interdisciplinary approach. The proposal must also explain why an interdisciplinary approach is required and/or the added value of this approach to the research problem.

NFRF "Pass" Definitions for Key Elements from Evaluation Matrix:

- ***Perspective:*** Proposes a novel interdisciplinary approach. Incorporates different disciplinary approaches, bringing a novel perspective to the defined challenge.
- ***Approach:*** Proposes the application or adaptation of frameworks/tools/methods/techniques from one discipline to solve a problem in another discipline. (This may also apply for projects where there is a history of collaboration between the disciplines.)
- ***Integration:*** The various disciplinary approaches and perspectives are fully integrated; the project is not an amalgamation of disciplinary-specific approaches.
- ***Team:*** The interdisciplinary approach is reflected in the team.
- ***Proposal Design:*** Designed from an interdisciplinary perspective.

SPARC Tips

- Reminder: This content aligns with the Interdisciplinarity criterion, which is Pass/Fail, with a Fail meaning the project will not proceed to the Full Application stage.
- To ensure the Interdisciplinarity criterion is fully addressed, reference the corresponding five Elements (e.g., as sub-headings) and the "Pass" descriptors, as relevant, from the Evaluation Matrix: Perspective; Approach; Integration; Team; and Proposal Design.
- Demonstrate that interdisciplinarity is a constitutive and necessary feature of the proposal by describing your project challenge as unanswerable without an interdisciplinary approach that requires the kind of budget and timeline provided by the Transformation program.
    - For proposals that risk veering heavily towards a single Tri-Agency mandate, articulate how the proposed research and related research question(s) is/are also firmly rooted in the mandate of (at least) a second Tri-Agency.
- Showcase your unique team by describing how the multi-faceted nature of the problem/challenge requires this team of world-leading experts from a range of different disciplines.

FEASIBILITY sub-section

NFRF LOI Instructions: Provide a brief overview of the methodological plan. Indicate how EDI-RD considerations impacted the proposed plan (or provide a justification of why they were not considered).

Indicate where and/or how the team will access any needed infrastructure (if applicable).

Present a synopsis of the strength of the research team, demonstrating the expertise available on the team.

NFRF Criterion: Feasibility covers the plan and the ability to execute the activities. It considers elements such as:

- problem or challenge being addressed;
- proposed approach, including EDI-RD when appropriate;
- knowledge, expertise and capacity of the team;
- workplan and timeline;
- engagement and collaboration with First Nations, Inuit and Métis peoples (for Indigenous research) when appropriate;
- suitability of the research environment (i.e., access to required infrastructure); and
- management plans.

At the LOI stage, the evaluation will focus only on the feasibility of the proposed approach to the problem or challenge at a relatively high level.

NFRF "Exceptional" Rating Definitions for Key Elements from Evaluation Matrix:

- ***Challenge:*** The problem or challenge being addressed is significant and clearly articulated.
- ***Building on Current Knowledge or Prior Art:*** The application demonstrates that the research team is aware of current and relevant research, prior art, or knowledge. The proposed research may challenge paradigms but it is built on sound principles.
- ***Workplan:*** The proposed research project is clearly presented, with short- and long-term objectives clearly defined. The proposed work plan, including the methodological approach, is well described, reasonable and likely to be achievable within the proposed timeframe.
- ***Resources:*** The research team has the necessary resources to complete the work. All resources have been described.
- ***EDI-RD:*** EDI-RD considerations have been integrated into the methodological approach (if applicable). The impact on the methodological approach and/or design has been clearly described.
- ***Indigenous Research:*** Co-creation, co-leadership and co-ownership with First Nations, Inuit and/or Métis Peoples are clearly integrated in the project's design. The methodological and/or theoretical framework successfully incorporate key considerations of SSHRC's Merit Review of Indigenous Research. Attention to equitable processes and procedures for fair and respectful inclusion of Indigenous communities and their perspectives are evident.

SPARC Tips

- Reminder: This content aligns with the Feasibility criterion, which is weighted 20% at this stage.
- Reminder: This may be the proposal's longest section, thus 1-2 orientation sentences will provide reviewers with a helpful sense of the basic structure / key components of your workplan upfront.
- To ensure the Feasibility criterion is fully addressed, reference the corresponding six Elements (e.g., as sub-headings) and the "Exceptional" descriptors, as relevant, from the Evaluation Matrix: Challenge; Building on Current Knowledge or Prior Art; Workplan; Resources; EDI-RD (if relevant); and Indigenous Research (if relevant).
- Consider including a Gantt chart, or other visual representation of your high-level project timeline.
- Consider feasibility in terms of the plan and the ability of your team to execute the activities. Be sure to discuss potential barriers to uptake which might prevent implementation/integration of your research findings and outline your plans for addressing/mitigating these challenges.

ANTICIPATED TRANSFORMATION/CHANGE/IMPACT sub-section

NFRF LOI Instructions: Describe the anticipated impact of the proposed work and the significance of the change.

Specify the likelihood that the impact will be realized and provide an explanation.

Detail the short-term and long-term benefits that will be realized.

NFRF Criterion (High Reward ≈ Anticipated Transformation/Change/Impact): To be transformative, funded proposals must have the potential for high reward. High reward is defined as the potential to create a significant and real change or impact. Applications must explain the anticipated change or impact that is likely to result and its significance. Proposals must also outline the major short-, medium- and long-term changes that are expected, the likelihood of their achievement, and who (or what) will be affected by the changes.

NFRF "Exceptional" Rating Definitions for Key Elements from Evaluation Matrix:

- ***Impact:*** Significant social, economic, environmental or health impact. Significant breakthrough—opens a new area of discovery. The substantial change that is likely to result is clearly defined and specific. There is a solid plan to measure the impact. The significance of the change is well articulated.
- ***Benefit:*** Significant benefit for Canada and Canadians. Benefit extends beyond Canada. (Note: Benefit to Canada may include reputational benefit relating to Canada's presence on the world stage.)
- ***Reach:*** Impacts a large and diverse community or communities. Significantly impacts numerous fields or applications.
- ***Likelihood:*** There is a high likelihood that the significant impact will be realized.
- ***Short-term Benefits:*** Short-term benefits are significant, clearly defined and specific, and will be measured.

Note: The overall rating for the Feasibility criterion cannot be higher than the rating of any given element in the matrix. For example, if a reviewer considers most of the elements to be Very Good, but the Indigenous research or EDI-RD element to be Poor, then the overall rating for Feasibility cannot be higher than Poor.

SPARC Tips

- Reminder: This content aligns with the High Reward criterion, which is weighted 60% at this stage.
- To ensure the High Reward criterion is fully addressed, reference the corresponding five Elements (e.g., as sub-headings) and the “Exceptional” descriptors, as relevant, from the Evaluation Matrix: Impact; Benefit; Reach; Likelihood; Short-term Benefits.
- Why should your project be one of approximately six projects funded across Canada? Highlight how, at the end of 6 years, Canada will be considered world-leading in the proposed interdisciplinary area of research and how the results will have a global impact.
- Clearly articulate short-, medium- and long-term project goals, plus measurable outcomes in 6 years. Consider identifying the challenges associated with implementing research outcomes and overcoming them with integrated team members who can move these finding into the appropriate sector and/or to the appropriate end user.
- Keep the “high risk/high reward” proposition central to your proposal (even though NFRF separates them into two criteria). When addressing the High Reward criterion, highlight how the project aims to shift/disrupt a paradigm within society/government, will lead to a potential breakthrough, has potential to significantly alter/improve current practices and/or to impact large and diverse communities and/or numerous fields/applications (e.g., “we will establish Canada as a world leader in …”). Consider whether there are stories, topics, etc. related to your project which are already in the public domain and may influence panel discussion. If there are potential ‘positive influencers’, can you leverage them? If the opposite situation exists, be sure to address these issues directly so that you remain in control of your narrative.

EDI-RP

NFRF LOI Instructions: Applications must not include any self-identifying information about members of the research team in the EDI-RP section, but you may include information that reveals team members' affiliations, including departments, lab groups, etc. Focus on the team's commitment to EDI, not on its EDI profile. See NFRF's Best Practices in Equity, Diversity and Inclusion in Research guide for more details.

Applicants may draw on institutional EDI policies and practices where these exist, but they must be tailored to the particular context of the fields and teams involved. Applicants are encouraged to be specific and concise.

NFRF Additional Convergence Portal Instructions: ***About privacy and confidentiality:*** When completing the EDI sections of the NFRF application, applicants must protect the privacy and confidentiality of all team members. How an individual self-identifies (in terms of belonging to one or more population groups) is considered personal information and should not be disclosed.

- **Do not** provide information about the composition of the research team in any way (e.g., Dr. X identifies as a racialized individual; the team has X women, X men, etc.).
- Instead, give concrete examples of clear and specific initiatives and measures the team has undertaken and/or will undertake to realize its EDI goals (see examples in the tables below).

Information that identifies the personal information (self-identity information) of any of the team members may result in the application being withdrawn from the competition. An exception to this is made in the case where an applicant wishes to self-identify because it is directly relevant to the application's research topic (e.g., to demonstrate lived experience on the topic). The individual's consent to disclose should be made clear in the application.

EDI in research practice (research team and research environment): To address the "EDI in research practice" selection criterion, applicants are required to consider the type of research environment they will establish, as research leaders who are responsible for leading, training and mentoring their team members, in relation to:

a. team composition and recruitment processes
b. training and development opportunities
c. inclusion in the research environment

Note: It is not enough to rely on the institution's EDI policies to meet the expectations of the NFRF program with respect to EDI-RP. It is insufficient to indicate that an institution's policies will be followed or to copy the institution's practices. Applicants must clearly convey that they have a strong commitment to and an understanding of EDI and its importance in research, and must clearly explain how the best practices identified for each area were developed in consideration of the specific context of the research environment.

It is recommended that applicants create an EDI plan with key objectives and action-oriented measures based on the needs of team members and on known systemic barriers in the research environment. It is important that the EDI plan apply an intersectional lens and be based on an understanding of the institution's and the research team's environment and specific challenges. Objectives should be SMART (specific, measurable, aligned with the desired outcome, realistic and timely). Strategies for monitoring and reporting on progress, and for course-correcting, if necessary, must be included.

NFRF Selection Criterion: EDI-RP / early career researchers (ECRs) is a core element of the NFRF
[Box continued on the next page.]

[Box continued from the previous page.]

program. Applicants must clearly demonstrate their commitment to EDI in their research practice, including among students, postdoctoral fellows, co-PIs, co-applicants and/or collaborators, as applicable. Teams should also consider diversity as it applies to career stages, sectors and institutions.

Actions taken are expected to remove barriers and provide opportunities for the meaningful integration of individuals from all groups, including the four designated groups (women, Indigenous Peoples, members of racialized groups and persons with disabilities). Consideration of other identities, such as 2SLGBTQIA+, is also appropriate.

An application must not include any personal information about members of the research team (including the number of team members belonging to each of the designated groups) in the EDI-RP/ECRs section; the focus is on the team's commitment to EDI in its research practice, not on the team's EDI profile.

Sections

- Analysis of Context
- Team Composition and Recruitment Processes – best practice(s); and relevance, approach and impact
- Training and Development Opportunities – best practice(s); and relevance, approach and impact
- Inclusion – best practice(s); and relevance, approach and impact

Overall SPARC Tips

- Reminder: This content aligns with the EDI criterion, which is Pass/Fail, with a Fail meaning the project will not proceed to the Full Application stage.
- Reminder: This content is locked after LOI submission and cannot be edited at the Full Application stage. In fact, for Transformation awardees, this will section will serve as your 'EDI plan' against which your performance will be assessed at the mid-stage review to determine if the remaining funds will be released.
- Access EDI information tailored for UBC applicants in the SPARC-Annotated NFRF Best Practices in EDI Research Guide housed on SPARC's NFRF Resources webpage (CWL required).
- Ensure that no "EDI-type personal information" is included anywhere in the application: You are being asked to "demonstrate a commitment to EDI, as demonstrated by the meaningful engagement of members of the four designated groups (women, Indigenous peoples, members of visible minorities and persons with disabilities)", which increases the possibility of disclosing personal information. In the context of the Transformation program, this type of "self-identifying / self-identity" information refer only to 'EDI-type personal information', specifically "race, colour, place of origin, religion, immigrant and newcomer status, ethnic origin, ability, sex, sexual orientation, gender identity, gender expression and age" (NFRF email to SPARC, April 2020).
- Lived-/Living-experience details can be included: However, be sure to specify this as expertise relevant to the project, rather than EDI-type personal identity information.
- Affiliation-type identification information is also allowed: Although "affiliation of team members (including departments, lab groups, etc.)" details are identifying, they may be included because they are not EDI-type personal information. Also, the Transformation program does not require team member anonymity like the Exploration program does.

- Incorporate key terms: Demonstrate a clear understanding that gender is socially constructed and non-binary. While it is prudent to mirror the Tri-Agency language (NFRF's EDI Best Practices Guide now uses only "racialized individuals", not "visible minorities"), be mindful that language matters and that their terms may not align with the self-identities of the people they are intended to describe.
- SPARC strongly recommends that NPIs be responsible for championing development of the EDI strategy and writing the content, in order to convey the genuine commitment and authenticity required by the NFRF EDI requirements.
- Compelling best practices will range the full breadth of the 'EDI experience spectrum' – from the NPI being at the early stages of personal education and training, to the entire project team contributing to the implementation of a formalized EDI strategy.
- Your best practices must be unique, and tailored to your specific situation. Reviewers will be particularly interested in the specific actions your team will take to incorporate and advance EDI within your research environment, so avoid stock text.
- Be aware that the natural occurrence (i.e., coincidence) of balance and diversity on a team is insufficient. In fact, do not provide a 'diversity profile' of your team (e.g., breakdown by gender).
- Be aware that some teams may lack diversity because of the homogeneity of the research field(s). Acknowledge the recognized lack of diversity, outline how you will educate yourself about the barriers that have generated this disparity, then describe your plan to address them.

ANALYSIS OF CONTEXT section

NFRF LOI Instructions: In this section, provide the following:

a. information about the team's specific circumstances related to EDI, including identification of structural biases that could affect members of underrepresented groups

Information that reveals team members' affiliations (including departments, lab groups, etc.) may be included in this section, if relevant.

NFRF Convergence Portal Instructions: The description should relate to the specific circumstances of your research team, environment, institution and/or field.

Explain your team's specific challenges in relation to EDI-RP.

Maximum character count: 2500 (includes spaces)

NFRF "Pass" Definition for Key Element from Evaluation Matrix:

- ***Analysis of Context:*** Shows understanding of EDI-RP considerations/systemic barrier(s) in the context of the research team. Provides a clear explanation of the team's specific challenges/opportunities related to EDI-RP. Cites concrete and specific examples in the analysis. Demonstrates a strong commitment to EDI-RP overall.

SPARC Tips

- Reminder: The Convergence Portal does not allow formatting in text boxes, so use capital letters to denote headings in this section.

- Focus this section on presenting the concrete barriers (i.e., negative circumstances) existing in your fields/disciplines, which will be overcome by the best practices (i.e., positive strategies) to be proposed in the subsequent EDI sections. Prioritize these over existing EDI policies and activities at your institution(s) (i.e., positive circumstances). For example:
    - Outline challenges faced by your research team. If possible/relevant, compare these to your faculty/field averages. Be honest about team building issues/challenges.
    - Deliver an honest assessment of your current environment (e.g., lab and office space), including key challenges existing in the social and physical environments, as relevant.
    - Describe any relevant institutional/Faculty/Department barriers. If relevant, describe challenges related to implementing a multi-institutional EDI strategy.
    - Detail the current state of EDI in your fields, including specific issues (e.g., underrepresentation of women).
- Be aware that best practices identified in the next sections will need to cover three areas: **(a)** Team Composition and Recruitment (i.e., diversity); **(b)** Training and Development Opportunities (i.e., equity); and **(c)** Inclusion.

OVERVIEW of TEAM COMPOSITION AND RECRUITMENT PROCESSES, TRAINING AND DEVELOPMENT OPPORTUNITIES, and INCLUSION sections

NFRF LOI Instructions: In this section, provide the following:

b. the best practices that will be applied for each of the following elements:
   i. team composition and recruitment processes;
   ii. training and development opportunities; and
   iii. inclusion

For each, a brief explanation must be provided, including how each practice applies to the team's specific context; how it will be implemented; the expected impacts; and how the impacts will be measured.

Information that reveals team members' affiliations (including departments, lab groups, etc.) may be included in this section, if relevant.

NFRF Convergence Portal Instructions: Identify the best practices applied.

Maximum character count: 250 (includes spaces)

Explain the relevance, approach and expected impacts of the best practices implemented, and how the impacts will be measured.

Maximum character count: 2500 (includes spaces)

NFRF "Pass" Definitions for Key Elements from Evaluation Matrix:

- ***Concrete Practice for Each Area:*** Lists at least one concrete practice that targets the specific context listed for each area.
- ***Implementation:*** Provides a description of how the concrete practice has been/will be realistically implemented. Considers implementation challenges
- ***Impact:*** Explains how the concrete practices will impact EDI-RP, and how it will be measured.

SPARC Tips

List a maximum of two relevant best practices: Resist naming >2 practices as you likely won't have space to sufficiently expand on more than this in the 2500-character sections.

Select realistic and feasible best practices: NFRF will revisit this information (i.e., your EDI plan) during the mid-term review of award recipients, and funding may be terminated early if teams have not made sufficient progress in all five selection criteria.

Ensure content alignment between sub-sections: Relate "relevance, approach and expected impact" back to "best practices implemented" back to barrier(s) identified in "Analysis of Context".

Sub-headings: "RELEVANCE", "APPROACH", and "IMPACT" are suggested as sub-headings to organize content and convey to reviewers that the requirements have been met. Consider CAPITALIZED HEADINGS because formatting is not possible in text boxes.

Re: Best Practices: What systemic EDI barriers does your team need to address? What best practices will be implemented to address each barrier?

Re: Relevance: Why did you decide to implement this particular strategy, given your project team's specific context? How was the need/goal identified? Which specific EDI barriers does this strategy address?

Re: Approach: What steps are involved in implementing your strategy? What monitoring mechanisms/feedback loops are in place? Who will review and determine changes based on this reporting? How will issues/resolutions be communicated to the team, and recommendations/improvements implemented? If relevant, what challenges do you anticipate when implementing EDI strategies across different institutions?

Re: Expected Impact: What are your expected (hoped for) outcomes? What short-/medium-/long-term impacts are expected? How will they be measured? How will you know implementation was successful?

TEAM COMPOSITION AND RECRUITMENT PROCESSES section

NFRF Best Practices in Equity, Diversity and Inclusion in Research Instructions: ***Why is it important?*** Research shows that a diversity of perspectives and experiences is fundamental to achieving research excellence. Implementing proactive measures to address systemic barriers in recruitment promotes and supports a diversity of perspectives in the research team and helps ensure the best candidates are selected from a large pool of candidates, leading to research that is as impactful and innovative as possible. In the same way that bias in research methods should be mitigated as they can impact the validity and reliability of research findings and thus its excellence, bias and discrimination in decision making and evaluation processes in the composition and management of research teams must also be mitigated to support their excellence. Simply put, bias and discrimination are at odds with and directly counter research excellence.

Expectations: When recruiting new team members, applicants are expected to create a diverse team by using best practices to encourage a diverse applicant pool and not disadvantage candidates from underrepresented groups, including, but not limited to, women and gender minorities, Indigenous Peoples, persons with disabilities, racialized individuals, and members of the 2SLGBTQIA+ communities.

Applicants must identify the best practice(s) that will be implemented to ensure that diversity is being deliberately and proactively considered in composing the team and recruiting team members. If your team is complete and you do not foresee recruiting additional members for the proposed project, outline the concrete practices that have been and/or will be implemented if you need to replace or add a member, to ensure EDI is considered in the team composition and recruitment process.

SPARC Tips

- Focus these best practices on the "diversity" portion of EDI.
    - Target best practices that centre on diversity to minimize overlap and confusion between the other two sub-sections. **Note:** NFRF defines diversity as "differences in race, colour, place of origin, religion, immigrant and newcomer status, ethnic origin, ability, sex, sexual orientation, gender identity, gender expression and age."
- Ideas for ensuring transparency in the selection of new team members, and an equitable and diverse recruitment process overall, might include:

  - Request application materials without personal information (e.g., name, age, sex, gender, ethnicity, photo) to avoid unconscious bias and add a filtering step performed by a designated team member not involved in the evaluation process to remove any remaining identifying details
  - Use a pre-set scoring system focused on education, technical expertise and relevance of skillset to ensure objective review and scoring of cover letters and CVs
  - Assess candidate qualifications and abilities based exclusively on active work periods, without penalty for career disruptions
  - Use both faculty and trainee team members to review candidate applications to ensure diverse evaluation
  - Make telephone/Zoom interviews available for candidates unable to attend in-person
  - Conduct interviews with at least two individuals of different genders and ethnicities to eliminate potential biases
  - Use pre-set interview questions with objective criteria to enable consistent, reliable scoring by panel members

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TRAINING AND DEVELOPMENT OPPORTUNITIES section

NFRF Best Practices in Equity, Diversity and Inclusion in Research Instructions: ***Why is it important?*** Access (or lack of access) to training, development and mentoring opportunities can significantly influence an individual's research career trajectory. Ensuring that such opportunities are equitably available to all team members can address potential inequities and lead to a more inclusive research environment by helping all members realize their full potential. Expectations

Applicants must describe the best practices that will be implemented to ensure that EDI is intentionally and proactively considered in the training and development opportunities within the team so that they are equitably provided to all members. Applicants must provide a minimum of one concrete practice that will be employed to ensure that EDI is intentionally and proactively considered in the training and development opportunities within the team.

SPARC Tips

- Focus these best practices on the "equity" portion of EDI.
  - Target best practices that centre on equity to minimize overlap and confusion between the other two sub-sections. **Note:** NFRF defines equity as "the removal of systemic barriers and biases enabling all individuals to have equal opportunity to access and benefit from the program."
- Ideas for ensuring equitable training and development opportunities might include:
  - Identify specific training courses that will be completed to build individual and collective EDI competencies
  - Formal commitment to regular team check-ins that focus on individual and team well-being, as well as research activities

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INCLUSION section

NFRF Best Practices in Equity, Diversity and Inclusion in Research Instructions: *Why is it important?* The research team must fully support and integrate all team members so they can reach their full research potential and continue to pursue their career in research (if so desired). Discrimination, microaggressions, biases, inequitable support, lack of recognition, ableism, sexism, anti-Black racism and lack of understanding of Indigenous communities all create harm, such as racial trauma, and can negatively impact a team member's ability to fully contribute to the work of the team. Inclusion requires consistent education and effort by all team members, so that all team members feel supported and integrated, and so that all lived experiences and research contributions are valued as assets to the team. Research leaders play an important role in modelling and setting expectations within the team in this regard.

Expectations: Applicants must describe the best practice(s) they will implement to ensure all team members, in particular individuals from underrepresented groups, are fully integrated and supported in the research team. Applicants must provide a minimum of one concrete practice that will be employed to ensure EDI is intentionally and proactively considered to support the inclusion of all team members.

SPARC Tips

- Focus these best practices on the "inclusion" portion of EDI.
  - Target best practices that centre on inclusion to minimize overlap and confusion between the other two sub-sections. **Note:** NFRF defines inclusion as "the practice of ensuring that all individuals are valued and respected for their contributions, and equally supported."
- Ideas for promoting/supporting/facilitating inclusion:
  - Commitment to regular team meetings and social gatherings, including team building exercises
  - Quarterly anonymous surveys to gauge level of inclusion and integration experienced by team members, with support from the Inclusion/Equity lead in NPI's Faculty to resolve issues

Support of ECRs

NFRF LOI Instructions: Explain how ECRs will be included in the team and integrated in a meaningful way, including plans to support their leadership and development throughout the project.

NFRF Convergence Portal Instructions: Applicants must consider the type of research environment they will establish as research leaders who are responsible for leading, training and mentoring their team members. As well, applicants must demonstrate a strong commitment to the meaningful integration of ECRs in the project team, with concrete measures put in place to support their integration and leadership development.

Self-identifying / self-identity in the context of the ECRs section – which must be avoided – is anything that might identify the personal information (e.g. age, gender, Indigenous identity, disability, or racial background) of anyone participating in the proposed research project. Therefore, you may include information that reveals the affiliation of team members (including departments, lab groups, etc.), but not that reveals their personal information (including their name).

Provide a description of how ECRs will be included in the team and integrated in a meaningful way, including plans to support their leadership and development throughout the project.

Maximum character count: 3500 (includes spaces)

NFRF Selection Criterion: EDI-RP / early career researchers (ECRs) is a core element of the NFRF program. Applicants must clearly demonstrate their commitment to EDI in their research practice, including among students, postdoctoral fellows, co-PIs, co-applicants and/or collaborators, as applicable. Teams should also consider diversity as it applies to career stages, sectors and institutions.

An application must not include any personal information about members of the research team (including the number of team members belonging to each of the designated groups) in the EDI-RP/ECRs section; the focus is on the team's commitment to EDI in its research practice, not on the team's EDI profile.

NFRF "Pass" Definition for Key Element from Evaluation Matrix:

- ***Integration of ECRs***: ECRs are included in the team and integrated in a meaningful way. Plans are in place to support leadership development throughout the project.

SPARC Tips

- Reminder: This content aligns with the EDI criterion, which is Pass/Fail, with a Fail meaning the project will not proceed to the Full Application stage.
- Reminder: This content is locked after LOI submission and cannot be edited at the Full Application stage.
- Reminder: The Convergence Portal does not allow formatting in text boxes, so use capital letters to denote headings in this section.
- Expertise details, including lived-/living-experience, can be included. However, be sure to specify this as expertise relevant to the project, rather than as EDI-type personal identity information.
- Tailor content based on the number of ECR team members.
    - For teams with a single ECR, provide justification for this decision.
    - For teams with >1 ECR, leverage your 'ECR cohort' to propose novel support strategies.

- Present your ECR training/mentoring philosophy. If you do not have a philosophy specific to ECRs, adapt the one used for trainees/students/visiting scholars. Consider how participating in/contributing to the project will benefit ECR career development and position them for successful research careers.
- Articulate your mentorship/training plan. This could include: **(a)** training goals / key learning; **(b)** project/research mentoring/training approaches; **(c)** rationale for the proposed approach; **(d)** potential challenges plus mitigation strategy; **(e)** progress and success measures.
- Include project-specific training and skill development details. For example, describe relevant instrumentation and study design/analysis requirements, plus general research (e.g., grant writing, ethics, presentation), academic career (e.g., teaching, mentoring, networking) and general career (e.g., interviewing, lab management) requirements.
- Highlight unique training elements/approaches to stand out from your competitors, such as interdisciplinary internships, cross-national mentoring and knowledge translation training.
    - Consider what leadership, research and/or career development guidance and support the NPI and other team members can provide.
    - Include a plan for ECR training of students and mentoring of postdoctoral fellows within the context and time frame of the proposed project.
- Consider how ECRs will champion new ways of conducting research. For example, they may contribute new research perspectives and strategies for thinking ‘outside the box’, share new tools and methodologies, and be adept at using cutting-edge equipment.
- Reference formal (i.e., documented) processes/procedures, as available. For example, highlight leadership development, orientation and training/mentoring reports/policies/etc., plus any trainee assessment and goal-setting plans (e.g., NIH Office of Intramural Training & Education, Science Careers Individual Development Plan). Other resources can be found at UBC’s VP Academic/Provost webpage on faculty mentoring.

References

NFRF LOI Instructions: Applicants are strongly encouraged to include only the main references required to support the proposal (unlimited).