Subatomic Physics Discovery Grants Program – Individual and Project

Instructions to external Reviewers

- How external review reports are used
- How to evaluate an application
- What to avoid
- Additional information
- How to access the application and complete your report

How external review reports are used

External reviewers help provide a deeper overall assessment of an application during the peer review process. External reviewers may be familiar with a particular research area or technique and may be able to comment on an applicant's contributions to the field. During deliberations, the Evaluation Group members present and discuss external reviewer reports that were received for an application.

External reviewer reports are considered the applicant's personal information as defined by Section 3 of the *Privacy Act:* As such, at the end of the competition, NSERC provides each applicant with their respective reports, while protecting the names and identifiers of the reviewers and other third parties (e.g. other applicants or researchers). External reviewer reports are not the property of the reviewer and must therefore be destroyed in a secure manner once submitted (e.g., by deleting electronic data files, shredding or burning paper, or arranging for their return to NSERC).

How to evaluate an application

Ultimately, the integrity of the peer review process relies on high quality reviews. In the External Reviewer Report template provided to you on the Extranet, provide a high quality review based on the selection criteria below, taking into consideration any eligible delays that are beyond the control of the applicant.

Refer only to the information contained in the review material provided. This consists of the application form, proposal, budget justification, the Canadian Common CV (CCV), and, if applicable, other support sources, references, samples of research contributions and an attestation on confidential research contributions.

A high quality review that provides useful comments for the Evaluation Group and the applicant is:

- **Fair**: Respectful, consistent, and appropriate.
- **Informative**: Clear, detailed, constructive and well-justified.
- **Use of inclusive language**: For example, “the applicant” or “they” instead of “he/she”. The report should be free from words or sentences that reflect prejudiced, stereotyped or discriminatory language of particular people or groups or their institution.

Selection criteria:

Comment in detail on each of the three selection criteria. Justify your assessment by referring to the information provided in the application materials.

1. Scientific or engineering excellence of the researcher

Applicants must present evidence of meaningful research contributions to the natural sciences and engineering (NSE) field in the past six years.

Describe the applicant’s strengths and weaknesses related to:

- Knowledge, expertise and experience of the researcher in the natural sciences and engineering, and evidence of their stature in the field.
- Quality and impact of contributions to the proposed research and/or other areas of research in the natural sciences and engineering. Impact does not refer to quantitative indicators such as the impact factor of journals or h-index, but on the influence that results have had on other researchers, on the specific field, the discipline as a whole, or on other disciplines.
- Importance of contributions to, and use by, other researchers and end-users.

For team applications, comment on the team as a whole, with reference to individuals as appropriate.

2. Merit of the proposal

The proposal must clearly present a program of research in the natural sciences and engineering. The program must not be limited to the development of specific applications of existing knowledge; it must propose an original and innovative contribution.

Describe the strengths and weaknesses of the proposal related to:

- Originality and innovation; extent to which the proposal suggests and explores novel or potentially transformative concepts and lines of inquiry in the NSE; extent to which the proposal will lead to advances in the NSE.
- Significance and expected contributions to NSE research; potential for policy and/or technology related impact.
- Clarity and scope of objectives (research program with long-term goals rather than a single short-term project or collection of projects).
- Clarity and appropriateness of methodology.
- Feasibility
- Consideration of sex, gender and diversity in the research design, if applicable.
- Extent to which the scope of the proposal addresses all relevant issues, including the need for varied expertise within or across disciplines.
- Demonstration that the Discovery Grant proposal is conceptually distinct from research support held or applied for through CIHR and/or SSHRC.

3. Contribution to the training of highly qualified personnel (HQP)

Contributions to quality training at all levels are valued, including undergraduate students involved in research, graduate students, postdoctoral fellows, technicians and research associates. Assessment is based on both the past training of HQP (over the last six years) and the future plans for training.

Describe the applicant's strengths and weaknesses related to:

- Quality and impact of past training of HQP, including:
    - training environment provided for HQP;
    - HQP awards and research contributions;
    - outcomes and skills gained by HQP.

- Quality, suitability and clarity of planned training of HQP in the natural sciences and engineering, including:
  - overall training philosophy;
  - research training plan for individual HQP.
- Consideration of equity, diversity and inclusion in past and planned training of HQP.

4. Need for funds

Describe the applicant's strengths and weaknesses related to:

- Appropriateness of, and justification for, the budget.
- Availability of other sources of funding and their relationship to the current proposal.
- Special needs related to the nature of the collaborative activities or infrastructure costs such as user fees, if applicable.

Delays in research and dissemination of research results:

NSERC recognizes that the COVID-19 pandemic is affecting researchers' and students' capacity to conduct their regular research and training activities. NSERC has published guidelines on the consideration of the impacts of the COVID-19 pandemic on research and training activities. These guidelines provide direction on how to describe these impacts in an application and information on how they will be considered in the review of contributions to research and training and research and training plans.

Applicants are asked to explain and give start and end dates for any eligible delays in the research activity or in the dissemination of research results within the last six years (e.g., parental leave, bereavement, illness, extraordinary administrative duties, etc.).

NSERC recognizes that research productivity and contributions to the training of Highly Qualified Personnel (HQP) may be disrupted due to delays incurred either by the applicant or by HQP.

In these cases the applicant's productivity should be assessed over the active period (i.e., excluding the defined period of delay). Reviewers are to recognize delays and assess the quality of research activity during the researcher's active period.

What to avoid

- Information outside the application material. The onus is on the applicant to provide complete and sufficient information.
- Comments that are vague or short, or that could be construed as sarcastic or inappropriate.
- Overly positive or negative comments that are not supported by references to the application material.
- The possibility of unconscious bias influencing the review. Unconscious bias may be based on a school of thought, fundamental versus applied research, certain sub-disciplines, areas of research or approaches, size or reputation of an institution, personal factors, age, sex or gender of the applicant. For more information, see NSERC's web page on Equity, Diversity and Inclusion.
- Identifying yourself, other applicants or researchers in your comments.

Additional information

Contextual information on Discovery Grants

NSERC's Discovery Grants program fosters research excellence, supports the activities of academic researchers working at the forefront of science and engineering nationally and internationally, and is instrumental in providing a stimulating research environment for the training of the next generation of researchers. Although Discovery Grants are "grants in aid" and not meant to cover the full costs of a research program, Discovery Grants represent a key source of funding for research in Canadian universities and constitute the foundation of a large part of Canada's research effort in the natural sciences and engineering. These grants cover the direct costs of research only. The researcher's salary and any indirect costs are provided through other mechanisms.

Unlike project-oriented grants, the Individual Subatomic Physics Discovery Grants are intended to provide support to university researchers who have submitted an excellent application for a long-term program of research. The duration of an Individual Subatomic Physics Discovery Grant is normally five years.

Project Grants are a specialized form of Discovery Grants available only in Subatomic

Physics. These grants support groups of researchers who perform experiments at specialized facilities in Canada and abroad. Each Project Grant application normally covers the full support for one experiment or program of related experiments. This support may include operating and travel expenses for all eligible collaborators, student stipends, and minor equipment costs. The maximum duration of a Project Subatomic Physics Discovery Grant is 3 years.

Conflict of interest and confidentiality

It is important that you adhere to the requirements set out in the Conflict of Interest and Confidentiality Agreement for Review Committee Members, External Reviewers, and Observers ("the Agreement"). If you are unable to do so, you must decline to participate in the review process.

External reviewers must not be in a conflict of interest. If you are in a conflict of interest, or for any other reason unable to act as an external reviewer, contact us as soon as possible. Specify in your e-mail which application you are unable to review.

As stipulated in the Agreement, there may be a real, perceived or potential conflict of interest when the Evaluation Group member, external reviewer or observer:

- would receive professional or personal benefit resulting from the funding opportunity or application being reviewed;
- has a professional or personal relationship with an applicant or the applicant's institution; or
- has a direct or indirect financial interest in a funding opportunity or application being reviewed.

A conflict of interest may be deemed to exist or perceived as such when Evaluation Group members, external reviewers or observers:

- are a relative or close friend, or have a personal relationship with the applicants;
- are in a position to gain or lose financially/materially from the funding of the application;
- have had long-standing scientific or personal differences with the applicants;
- are currently affiliated with the applicants' institutions, organizations or

companies—including research hospitals and research institutes;

- are closely professionally affiliated with the applicants, as a result of having in the last six years:
    - frequent and regular interactions with the applicants in the course of their duties at their department, institution, organization or company;
    - been a supervisor or a trainee of the applicants;
    - collaborated, published or shared funding with the applicants, or have plans to do so in the immediate future; or
    - been a member of any advisory body (such as a committee) to a facility that hosts the proposed research; or
    - been employed by the institution, when an institution is the applicant; and/or
- feel for any reason unable to provide an impartial review of the application.

In accordance with the Agreement, review documentation must be stored in a secure manner to prevent unauthorized access. When no longer required, review documentation must be destroyed in a secure manner.

Allegations of policy breaches

Allegations of policy breaches, as described in the Tri-Agency Framework: Responsible Conduct of Research must be treated separately from the peer review process. Should your review reveal concerns of possible policy breaches, report any allegation separately to NSERC program staff. Your external review report should only address the application and selection criteria and make no mention of the breach concerns.

Collection and use of personal information

The information you provide is collected under the authority of the *Natural Sciences and Engineering Research Council Act* and stored in a series of NSERC data banks described in the NSERC Info Source. Details on the use and disclosure of this information are described in Use and Disclosure of Personal Information Provided to NSERC. The information is used in accordance with the *Access to Information Act* and the *Privacy Act*.

Reference documents

- Discovery Grants Information Center;
- Program objectives for the Subatomic Physics Discovery Grants Program;
- Subatomic Physics Project Grant Merit Indicators
- Subatomic Physics Individual Grant Merit Indicators
- Guidelines for the Preparation and Review of Applications in Engineering and the Applied Sciences;
- Guidelines for the Preparation and Review of Applications in Interdisciplinary Research;
- Policy and Guidelines on Contributions to Research and Training;
- Discovery Grants Peer Review Manual;
- NSERC Training Module on Bias in Peer Review.

How to access the application and complete your report

NSERC currently provides access to the applications via a secure website, known as the Extranet. Once you agree to provide a review, you will receive an email containing information on how to access the Extranet: one with the link to the Extranet website and your username, and a separate email containing your password, if you are a new reviewer. Once you have logged in to the site, navigate to the application's Evaluation Group (refer to your invitation email for this information) through the list on the right side of the screen.

From the Evaluation Group's page, you will be able to find more detailed instructions on how to view the application and complete your report by hovering your mouse over the "External Reviewers" tab, and selecting the "Instructions to External Reviewers" option.

Note: The Extranet no longer supports Internet Explorer 8. We recommend upgrading to Internet Explorer 9, or using Google Chrome, Firefox or Safari.