

NSERC Research Proposal

Discovery Grants Program (DG)

(Adapted by A. Sills for Astronomy 3Y03)

General Presentation

When you prepare your application, supporting materials and attachments, follow these guidelines:

- Print must be in black ink and of letter quality.
- Text must be single-spaced, with no more than six lines per inch.
- The accepted font is Times New Roman regular 12 pts, or any comparable font.
- Condensed font, and applications completed strictly in italics, are not acceptable.

Attachments – free form:

- Use white paper, 8 1/2 x 11 inches (21.5 cm x 28 cm), portrait format
- Single column format with margins at 3/4 of an inch (1.9 cm) (minimum) all around OR ApJ format
- Enter your name at the top of every page, outside the set margins.
- For multi-page attachments, number your pages sequentially.
- The maximum number of pages allowed is five in single column format or three in ApJ format, including title, summary, figures, and references.

Note

All text, including references, must conform to these standards. Incomplete applications and/or applications that do not meet the presentation standards may be rejected or be at a disadvantage in comparison with those that are complete and respect the presentation standards.

Avoid using acronyms and abbreviations or explain them fully.

TITLE OF PROPOSAL

The title will be used for publication purposes. It should describe the subject of the research to be supported. It should not contain a company or trade name. Spell out scientific symbols and acronyms.

ABSTRACT OR SUMMARY OF PROPOSAL FOR PUBLIC RELEASE

The summary is intended to explain the proposal in language that the public can understand. It should be no longer than about 200 words.

Using simple terms, briefly describe the nature of the work to be done. Indicate why and to whom the research is important, the anticipated outcomes, and how your field and Canada will benefit.

PROPOSAL

Use the guidelines outlined in the General Presentation section to provide the requested information in a document to be attached to the application.

Addressing the points below, describe the proposed research to be supported. Images and graphics are included in the page limit.

Recent Progress

Describe recent progress in research activities related to the proposal.

Objectives

Describe the objectives of your suggested research project.

(The original description, which isn't relevant for Astronomy 3Y03, is: Define the short- and long-term objectives of your research program. Note that a research program should have a long-term vision that expands beyond the five years of the Discovery Grant. A single, short-term project or collection of projects does not constitute a research program.)

Literature Review

Discuss the literature pertinent to the proposal, placing the proposed research in the context of the state of the art.

Methodology

Describe the methods and proposed approach, providing sufficient details to allow the reviewers to assess the feasibility of the research activities.

Impact

Explain the anticipated significance of the work.

REFERENCES

- Use this section to provide a list of literature references. Your list of references must not exceed one (1) page on the printed copy.
- Do **not** refer readers to Web sites for additional information on your proposal.
- Do not introduce hyperlinks in your list of references, unless you are referencing a webpage explicitly.

Selection Criteria for Discovery Grants

Applications are judged according to the following criteria. The onus is on applicants to address these explicitly in their proposal.

- **Merit of the Proposal**
 - Originality and innovation; extent to which the proposal suggests and explores novel or potentially transformative concepts and lines of inquiry.
 - Significance and expected contributions to research; potential for technological 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.
- Extent to which the scope of the proposal addresses all relevant issues, including the need for varied expertise within or across disciplines.
- Appropriateness of, and justification for, the budget. (Not relevant for Astronomy 3Y03)
- Explanation of the relationship between other sources of funding and the current proposal; extent to which it is clear, comprehensive and convincing. (Not relevant for Astronomy 3Y03)

(Just so you know, NSERC also judges proposal on the following criteria, which we will NOT be using in Astronomy 3Y03)

- **Scientific or Engineering Excellence of the Researcher(s)**
- **Contribution to the Training of Highly Qualified Personnel**
- **Relative Cost of Research**

How to Prepare a Winning Proposal

No amount of care and effort in preparing a grant proposal will compensate for a weak research program. However, a poorly prepared proposal can prevent a strong research program from being supported. The following items are important in preparing a grant application for NSERC.

The research proposal

Remember that the intent of the NSERC Discovery Grants program is to fund a research program (with long-term goals) rather than a single short-term project or a collection of projects (although in Astronomy 3Y03, you are proposing a single small project. However, the following ideas still apply). Thus, a good research proposal will:

- place the research within the context of what is currently happening in the field;
- summarize relevant prior work in the field;
- articulate the goals;
- describe a research plan and methodology;
- indicate why the research is useful or important; and
- provide a progress report on work accomplished with previous funding (not relevant for Astronomy 3Y03).

You need to convince the selection committee that:

- your research program promises a notable advancement or innovation in the discipline or results of importance to a broad range of applications;
- you have identified well-formulated short- and long-term goals;
- attaining these goals would be a significant contribution to the discipline;
- you have a good chance of attaining the goals with the resources available.

A major portion of the proposal should be devoted to a careful description of the research objectives and of the methodology that will be used. For the research plan, you should at least know how you are going to start out and have some ideas for future options.

Describing your ideas

Your proposal will be evaluated by experienced researchers. It is up to you to provide the information necessary for a positive decision.

Acknowledge difficulties honestly. If there are potential problems, say so. It is reasonable to assume that you have thought through your proposal more thoroughly than the reviewers have;

consequently, if they see problems that you do not seem to have noticed then they may view your proposal negatively.

In writing a research proposal, you have to address two audiences: 1) the internal and external reviewers, who are likely to be knowledgeable in your field of interest, and 2) the remainder of the committee, who are in your discipline but may have limited knowledge of the area in which you are working. Your proposal must have something for both audiences; there should be enough depth and detail to satisfy the expert, but you must also convince the non-expert of the importance and impact of your proposed research.