NSERC Discovery Grants: Hints and Recent Changes

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Recent and upcoming changes to NSERC's Discovery Grant program have led to an increasingly competitive process for applicants. This article reviews these changes and their impact on the Canadian statistical science community, and provides information to researchers preparing applications.

Changes at NSERC

The last three years have seen significant changes to the discovery grant system, with more to come. All NSERC Grant Selection Committees (GSCs), and especially the statistical sciences committee have been affected by a decrease in available funding and pressure to raise the minimum grant level. GSCs have had to make difficult choices. In the statistical sciences, Discovery Grant success rates have fallen to 70%, and the minimum level for most grants has risen to $12,000 per year. For individual applicants this means an increasingly competitive grant selection process. As a discipline, we see fewer researchers being funded.

Looking forward, NSERC is planning to make substantial changes to the GSC structure, subdividing GSCs into smaller panels that can be assembled in various configurations to review different sub-disciplines.

In a changing environment, it is imperative that our community to make its voice heard. NSERC will be seeking input, for example at information sessions at the 2008 Annual Meeting of the SSC. An ad-hoc committee of statistical scientists has been working with NSERC and the community in an effort to identify concerns and propose solutions. This committee is chaired by Nancy Reid, with Christian Leger, Charmaine Dean, James Stafford, Francois Bellavance and myself as members.

Advice to applicants

In such a competitive environment, everyone wants to ensure their application has the best chance of success. From my GSC experience, I'd like to provide some insights on what can make for a successful proposal.

After preparing a lengthy outline on this topic, I was pleasantly surprised to discover that others have already done a much better job. The following articles are especially good:

- "How to get (and keep) an NSERC research grant", by Ian Witten and Janet Glasgow, online at http://www.queensu.ca/vpr/keespnserc.htm

- "NSERC hints for discovery grant applicants", online at http://www.umanitoba.ca/research/funding/tips/nserc_grant_tips.pdf
- "How to prepare a winning grant proposal", at the NSERC website, http://www.nserc.ca/programs/winprop_e.htm .

Although the most recent of these articles was updated in 2004, their advice remains current and highly relevant. Below I outline just a few ideas, some of which have become increasingly important in recent years.

Ask for help! "How to" articles are good, but your best advice may come from a colleague, collaborator, or former supervisor who's succeeded in obtaining a discovery grant. If you know a former GSC member, ask for their help. Get help early, so that if you get critical feedback, you can make significant changes to your proposal.

Suggest good referees. They are the experts who can speak authoritatively on your research. The form 180 you submit in the summer allows you to recommend referees and to clearly identify your research area. By doing so, you can help ensure that good referees will read your application. You should suggest referees that will be likely to take the time to provide a quality review. Canadian researchers understand the NSERC system, so including some Canadians is prudent. Use all five of your referee selections, avoiding people with a conflict of interest and current GSC members (listed at http://www.nserc.gc.ca/commit/gsc_e.htm).

HQP are increasingly important. In a competitive environment, committee members look for applications that meet all four NSERC criteria (excellence of the researcher, merit of the proposal, need for funds, and training of highly qualified personnel, or "HQP"). The committee needs to see *active involvement* of HQP in your research. Make this HQP involvement very clear. If you can, get permission to include student names on the HQP table on your form 100. Be clear about your involvement in supervision and co-supervision. For example, if you were an active collaborator in a student's thesis research, this is far more important than "supervising" a student who only did a project in your course. Co-authoring papers with your students is another good sign of HQP involvement. Identify this by making sure that HQP names are in **bold type** in your publications list. Of course, a first-time applicant is not expected to be supervising HQP, but should outline future plans.

Read the articles listed above. The authors have spent much more time than I have, encapsulating a wealth of information.

NSERC is the authoritative source of information. The ideas presented in this article are not intended to replace the official guidelines and recommendations made by NSERC (in the "program guide for professors") for the preparation of Discovery Grants. NSERC documents should always be considered the final authority.

As Ian Witten and Janice Glasgow observe in the article mentioned above "*No amount of care and effort in preparing a research grant proposal will compensate for a weak research program. However, a poorly prepared proposal can prevent a strong research*

proposal from being funded at the level it deserves." Not only are well-written proposals important to those writing them, but they also help the discipline, ensuring that the best research is funded.

Good luck on your next Discovery Grant application!