NSERC Discovery and RTI Grant Writing Workshop

Host: Laurent Kreplak, Associate Dean Research, Faculty of Science

Panel of Evaluation Group (EG) members:
Alison Thompson, Chemistry
Evangelos Milios, Computer Science
Kimberley Hall, Physics
Donald Mitchell, Psychology and Neuroscience
Joanna Flemming, Mathematics and Statistics
Craig Lake, Civil Engineering

Introductory overview: please refer to attached slides

Discovery Grant Notification of Intent to Apply (DG NOI) due August 1st: purpose is to help NSERC Committee (staff & chairs of your EG) decide which 5 people will be discussing your application. This information comes to the chairs in a spreadsheet of about 250 applicants; including name, institution, title, and keywords. The EG can then indicate conflict of interest, language conflict, high ability, moderate ability, low ability, or absolutely no ability to evaluate each application. They can also view each NOI in its entirety, but due to the high volume, it is unlikely that each one will be seen. Focus on title and keywords. It may be helpful to go to the NSERC website and look at the relevant EG committee (currently last year’s names, ~30% annual turnover, but spread of expertise is same) – and see who may be assigned to your application – who is on your topic? Consider how to appeal to the ones you want, and turn off the ones you don’t want.

Three evaluation sections:
1. Excellence of Researcher
2. Merit of the Proposal
3. Highly Qualified Personnel (HQP) Training

1. Excellence of Researcher

Q. Re: productivity, they used to look at how you use NSERC funds. Now, it seems to be all publications – is that the case?
A: Focus of EG is on contributions to Natural Sciences and Engineering – in general, the entire record is considered, not just NSERC funding
A: Meant as grants-in-aid, so can show how it fed into productivity, but must explicitly state that, and how, the NSERC grant helped acquire another source of funding

Q. There is difficulty being published in high-impact journals: what qualifies as high impact? How to best present reasons for choosing these journals? How does EG see open-source journals (must pay to publish, but open access, thus wide reach and impact)
A: The onus is on the applicant to make case for where he/she is publishing
A: The EG has to judge the quality of the application against “the grid”, which describes which types of achievements form criteria for strong, very strong, etc; this grid points at “in comparison to the
community”, i.e. that particular EG’s community, so if the EG members think open access is fine, then it is – so if you think more people can benefit from your work, then say so – not specifically asked for, but give it! Why you publish where you do is asked, and you can pull in other initiatives ongoing in your lab – think about the NSE) program, rather than your entire program.

Q: Where is this grid available?
A: On the NSERC website – instructions to EGs “peer-review manual”, good tool for self-evaluation
A: Valuable for all 3 prongs of evaluation. EG only considers the application in front of them. Excellence refers to the NSE program, and to the community. Up to you to convince them that they are in NSE, especially in cases where all journal articles may be, on their face, in some other area. In Computer Science, for example, EGs have seen 50+ publications listed, but if not counted as NSE or unknown to the EG members, they don’t help. Fewer papers in high-impact journals are more effective than many unrelated items.

Q: If some of your research includes arts, how is this viewed by the committee?
A: This is a rare occurrence. As a rule of thumb, 80% of your program must be within the NSE and the remaining 20% can include arts or other non-NSE components. Program must be based in NSE. That’s how NSERC thinks of it – frame it so that it fits within that.

2. Merit of Proposal
Very simply: the only thing you have any control over when you write your proposal. It’s too late to acquire more students or publications. Given your experience, what can you do? The time to start working on your proposal is now (June).

Q: How to balance program versus detail? If too much detail, we are told that NSERC doesn’t fund projects, they fund details. If too general, we are told that there is not enough information.
A: Do both. General program and specific projects that will realize that vision – they are not disconnected. Core proposal: give vision and highlight individual projects, then complete the picture in HQP. Work on your proposal early to allow your colleagues to review.
A: Biggest complaint of proposals is lack of detail. Describe half big picture, half specifics.
A: Within topics, are projects, so start with a general introduction and then go into detail of projects. Often 3-4 topics: ongoing and successful, new, new and risky… note that NSERC does not fund continuation of research.
A: There are 5 EGs, and if you’re lucky, 2 are in your field, but all 5 contribute equally to evaluation. Use words that a non-expert can understand. The more people you can draw into understanding, the higher you are likely to be voted. The median is used – so top 2 and bottom 2 votes omitted.
A: Draw in all 5 EG members. Make your proposal easy to read, don’t waste their time.
A: Re: median score: 1st reader presents the file (having read it well), then after 15 minutes a vote is taken. All are told the outcome. So, if anyone feels the vote reflects an unfair assessment, they can call for a revisit and head back to square 1. So, if a there is huge spread, then they are likely to revisit – this is a correction mechanism in the system. EG are not looking for things wrong, they are looking for things right. Highlight what you did with what you had.

Q: Grid: where is cut-off line of funded vs not funded?
A: Typically “strong” is funded, sometimes bin J is funded, sometimes, not. The EG does not know at the time. Focus of EG review is not the amount, or funded/not funded, but fairly assigning applications to a bin. Section Chair and Group Chair work with Program Officers to assign values to bins – continuity is important. They also look at HQP. Bins do get split based on ECR vs established researchers.

Q: The amount of funds that NSERC receives each year is different. Where do we sit this year? A: EG members and chairs are not involved in that – they just implement guidelines. That said, NSERC having higher allocation of funds does not necessarily translate to higher grant amounts. This depends on the number of applications, amongst other factors.

Q: Is it wise to put in a post-doc to raise the budget to still get funded on a lower bin? A: Budget doesn’t get discussed much. Be sensible, and air on the high side – NSERC does not give you more than you ask for. Budgets are only discussed if flagged; goal of budget is to stabilize feasibility aspect. Ensure consistency with other sections of proposal.

Q: If someone doing well has lower current funding, shouldn’t they be getting more from NSERC? A: Although the EG can view your currently held funding on your CCV (by doing the math), make it explicitly clear. CCV shows level of funding – so a reviewer could see this and have an unconscious bias. It is not discussed in EG. Committee cannot apply mathematical approach to previous funding vs: output, but there is inevitably some internalized, individual consideration.

Q: Is there any memory around the table? (Regarding EG members having access to an applicant’s previously submitted applications in former competitions) A: No, zero. Previous descriptions of unfunded projects should NOT be included in new applications, as this addresses negative things! Past consideration of previous applications is only discussed after the bin is assigned – although whoever writes to the applicant afterwards is informed of previous results to ensure an appropriate reply. It is positive, however, to include previous comments if used to address how you improved the grant.

Q: Addressing previous comments. How much do you adjust your proposal? The EG is not same composition, and may not agree with previous comments to begin with. A: Personally, I wouldn’t address it at all. Brings out a negative, could create bias. You can address comments without explicitly acknowledging that it wasn’t good enough last time. A: There is a calibration process in place, so in theory, any committee should come to the same score. Message to Applicants (MTA) contains valuable information – if they are bothering to give comments, they are sure to make it valuable. BE POSITIVE!

Q: Can each panelist briefly comment on one thing that impresses you the most about an application, and one that turns you off? A: Easy to read. The first referee has to summarize entire application into 2-3min, so use key phrases that can result in a coherent 1-page summary to the rest of the EG. A: Don’t make your reviewers think! Don’t make it a project for them! A: Worst thing: strong researcher with no effort into proposal; Best: use headings to organize your work, use free-form sections to be organized and relay every possible positive point
A: Summary is very important – try not to reiterate the first 3-4 sentences from introduction
A: Spend time on them
A: Cohesiveness: tie your sections together so that it can be read as one document. Who you are, what you do, what you’ll do with the funds – tell a story.

3. Highly Qualified Personnel (HQP)

Q: Earth Sciences is particularly affected by lower number of HQP – EG is not allowed to use the number of HQP, but it will not be considered an outstanding level if much lower than average – there is comparative ranking. How can applicants best remedy this?
A: It is not a good idea to be negative in your proposal, such as “I could have done better if...” – but find a way to say the same thing in a positive light. Positively explain the challenges you face, and cancel out the deficit in number by explaining their impact.
A: Also highlight the impact of your trainees – use the free-form sections to describe this. Quality is much more relevant than quantity.
A: Training program: spell out how you plan to train them. Many institutions without graduate programs are disadvantaged, but this is not fatal to your application. Many undergrads vs many graduate students is not necessarily a bad thing if you can really highlight what they learn.
A: Each of these 3 criteria are equally weighted, so put in just as much time to HQP, lots of space to discuss HQP in the past, and must be done in highest possible caliber. If there is any discussion amongst committee of the applicant being from smaller institution, the chair shuts it down. Fill the entire section – use up all the space.
A: To fill the pages: describe not just a philosophy, put a PLAN! How many students on which project, show your effort and organization

Q: Undergrads: how far back can you go? Can you mention students outside the 6-year window?
A: Yes you can mention it, but be careful to also mention current people. No reason not to do so.
A: BUT, in some cases, free-form on HQP pulls out only out-dated students, and the committee will see that. So yes, slip some in, but also focus on folks inside the 6-year window.

Q: How former HQP are doing: are they only considered successful if continuing in the same field?
A: Yes and no – onus is on the applicant to link the training experience with their current outcomes. I.e. what skills did you help them develop? Not necessarily direct, so you must point it out. Committee can’t make these connections, but you can do so for them.
A: Bring up their trajectory, focus on the link through their professions.

Q: How does HQP ranking work for junior faculty members? NSERC uses the term “early career researchers” (ECR), within 3 years of academic appointment
A: Going back to the grid, you will be evaluated the same as someone 25 years your senior. EG looks at your plan very closely, even if no track record, you will be marked as “moderate”. Often ECR are funded at lower bin levels. Put a lot of effort into your plan.
A: Spend a lot of time crafting this and getting feedback from your peers. Play up any mentoring experience in your past, e.g. Post-Doc working with Masters students, supervising, etc.
A: This also links to your proposal. It is scored separately, but the HQP are the ones doing the work in your proposal. Sprinkle your proposal into HQP and vice versa. “Feasibility” is vital.
Q: (early career researchers and HQP): an ECR shared: I mentioned people I mentored as a sessional professor (46 interactions) – but consequently looked like a highly experienced applicant, so was evaluated as an established researcher. Shot myself in the foot. How can I get around this?
A: Talk to the scientific officer for your EG and find out why. Might be due to other reasons. Categorization is independent of HQP, dependent on type of appointment, and other factors.

Q: if NSERC enables you to get another grant, how do you best describe this in your application?
A: State that you used it to get more funds!
Q: But where to categorize?
A: Under “excellence of researcher”

If you have any questions about NSERC Discovery Grant and RTI applications, please contact Dr. Laurent Kreplak at kreplak@dal.ca or 902-494-8435