NSERC Discovery Grant Writing Workshop
The Basics of a Discovery Grant

Presenters:  Dr Harold Aukema, Human Nutritional Sciences
Ms Andrea Craig, Research Grants Officer (NSERC)

Room E3-262 (Senate Chamber, E.I.T.C.)
23 September 2013, 1:30 – 3:30 p.m.
NSERC Discovery Grant Writing Workshop
The Basics of a Discovery Grant

Presenters: Dr Rotimi Aluko, Human Nutritional Sciences
Ms Andrea Craig, Research Grants Officer (NSERC)

Room A106 Chown Bldg (Faculty of Medicine Boardroom)
30 September 2013, 1:30 – 3:30 p.m.
Finding Research Services

Start here!

Then go here
Subject Matter Eligibility

- Found at NSERC’s website:
  www.nserc-crsng.gc.ca/NSERC-CRSNG/Policies-Politiques/subjectevalHealth-sujetevalSante_eng.asp

- Be clear about the eligibility of both the subject matter and yourself before you begin
“The Discovery Grants Program supports ongoing programs of research (with long-term goals) rather than a single short-term project or collection of projects.”
Individual Vs. Group

**Discovery - Individual**
- You are the sole researcher (with potential to collaborate)
- This grant supports your overarching program of research

**Discovery - Team**
- Team should be a natural partnership of complementary expertise
- Researchers’ excellence is evaluated and averaged
- Expected to continue in the long term
Use headings in your proposal: recent progress, objectives, literature review, methodology, impact

HQP Plan

Budget Justification limited to 2 pages

References page maximum has increased from 1 to 2

Mandatory inclusion of budget & summary pages for any CIHR or SSHRC grants applied for or held
2013-2014 Changes to the NSERC Discovery Grant Program

- Layman summary of proposal
- Budget – direct costs
- Budget – justification (attachment)
- Relationship to other funding (description & attachment)
- Proposal (5 pg; 8 for group)

- Contributions to training of HQP (I.e. Past Training)
- HQP Plan (1 page; I.e. Future Training)
- Most Significant Contributions to Research
- Additional Info about contributions
- References (2 page max)
Evaluation Mechanics

How will my NSERC Discovery Grant proposal be evaluated?
Evaluation Mechanics

1. Evaluation Groups
2. Peer Review System
3. 3 Equally-Weighted criteria
Evaluation Groups

12 discipline-based Evaluation Groups:

1501 - Genes, Cells and Molecules
1502 - Biological Systems and Functions
1503 - Evolution and Ecology
1504 - Chemistry
1505 - Physics
1506 - Geosciences
1507 - Computer Science
1508 - Mathematics and Statistics
1509 - Civil, Industrial and Systems Engineering
1510 - Electrical and Computer Engineering
1511 - Materials and Chemical Engineering
1512 - Mechanical Engineering

Members of the Groups will meet in different combinations (based on the match between their expertise and the areas of a subset of applications) to form these sections. This process is referred to as the “conference model.”

In the conference review model, your proposal will be read by FIVE PEOPLE: 2 Assessors and 3 Readers – each with a vote.
# 2-Step Review Process

<table>
<thead>
<tr>
<th>Excellence of researcher</th>
<th>Exceptional</th>
<th>Outstanding</th>
<th>Very Strong</th>
<th>Strong</th>
<th>Moderate</th>
<th>Insufficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merit of proposal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution to training of HQP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of research</td>
<td>High</td>
<td>Normal</td>
<td>Low</td>
<td></td>
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</table>

Funding "Bins":
- A (L, N, H)
- B (L, N, H)
- C (L, N, H)
- D (L, N, H)
Peer Review Resources

- Discovery Grants Information Centre:
  - www.nserc-crsg.gc.ca/Professors-Professeurs/DGIC-CISD_eng.asp

- Video: “Demystifying the review process ...”

- Complete 2012-2013 Peer Review Manual:
3 Equally-Weighted Criteria

- Excellence of the Researcher
- Training of HQP
- Merit of the Proposal

See DISCOVERY GRANTS MERIT INDICATORS
### Discovery Grants Merit Indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>Very Strong</th>
<th>Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>The accomplishments presented in the application were deemed to be of <strong>superior</strong> quality, impact and/or importance.</td>
<td>The accomplishments presented in the application were deemed to be <strong>solid</strong> in their quality, impact and/or importance.</td>
<td>The accomplishments presented in the application were deemed to be <strong>reasonable</strong> and/or important.</td>
</tr>
<tr>
<td>Proposed research program is clearly presented, is <strong>original and innovative</strong> and is likely to have impact by leading to <strong>advancements</strong> and/or addressing socio-economic or environmental needs. <strong>Long-term goals are defined and short-term objectives are planned.</strong> The methodology is <strong>clearly described and appropriate.</strong> The budget <strong>demonstrates</strong> how the research activities to be supported are distinct from and complement those funded by other sources.</td>
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</tr>
<tr>
<td>Training record is <strong>superior</strong> to other applicants, with HQP contributing to quality, original research. <strong>Many HQP move on to appropriate positions that require desired skills, obtained through training received.</strong> Research plans for trainees are <strong>appropriate and clearly described.</strong> HQP success is likely.</td>
<td>Training record compares <strong>favourably</strong> with other applicants. <strong>HQP generally move on to positions that require desired skills, obtained through training received.</strong> Research plans for trainees are <strong>appropriate and described.</strong> HQP success is likely.</td>
<td>Training record may be more realistic than for other applicants. <strong>HQP generally move on to positions that require desired skills, obtained through training received.</strong> Research plans for trainees are <strong>appropriate and described.</strong> HQP success is likely.</td>
</tr>
</tbody>
</table>

A rating in any of the three categories of ‘insufficient’ will result in an unsuccessful application.
Evaluation Criteria

Answering the call
Proposal Composition

**Excellence of the Researcher**
- Most Significant Contributions to Research
- Additional Info about contributions

**Merit of the Proposal**
- Layman summary of proposal
- Proposal (5 pg; 8 for group)
- Budget – direct costs
- Budget – justification (attachment)

**Training of HQP**
- Contributions to training of HQP (i.e. Past Training)
- HQP Plan (1 page; i.e. Future Training)
- Relationship to other funding

**Budget**
- Budget – direct costs
- Budget – justification (attachment)
You must *justify* the cost of what you are requesting – each budget item

Ask for what you need to carry out proposed research

Does double-duty, as often can reveal much about your proposal

NSERC set **page limit of 2** – use fully, but discuss budget *only*

Consider a Gantt chart if it helps to clarify

- Salaries / Stipends
- Equipment
- Materials
- Travel
- Dissemination
- Other
Must clearly describe any relationship with other funding sources, conceptual or financial.

2 places to discuss: 15,200 characters in application, “1 attachment” for uploads (10Mb)

Consider HQP support details for your other grants held

“Applicants who currently hold, or have applied for, research support from the Canadian Institutes of Health Research (CIHR) or the Social Sciences and Humanities Research Council of Canada (SSHRC) must provide the summary and budget page of these proposals.”

CIHR funding must be seen as separate - reviewers will be highly critical of blending of CIHR/NSERC funds.
The Proposal

Provide details on:

- **Recent research progress** related to the proposal (or attributable to your previous DG)
- **Objectives** – short- AND long-term
- Pertinent **literature** – put your research into context
- **Methods** and proposed approach
- Anticipated **significance**

Write for an expert- non-expert!

5 pages
The 8-Page Proposal (Team Grant)

Same requirements as Individual, but additional details required:

- Description of expertise, expected roles & contributions
- Discussion of collaboration among members
- Details of team management and structure
Highly Qualified Personnel

Various places to herald your HQP throughout your proposal:

- Budget justification
- Relationship to other support (if appropriate)
- Proposal body
- Each training plan

- NSERC highly values training of all types of HQP; MSc & PhD the most (unwritten)
- Ensure sufficient representation; sprinkle details throughout proposal
- Be explicit: who, doing what
- What do you offer to HQP?
- What can you offer to HQP?
- Consent form to use HQP personal info must be obtained
The HQP Training Plan

This section should only contain information pertinent to training plans

- Describe the projects
- Discuss the pertinence and involvement of trainees
- Explain the expected outcomes in terms of contribution to knowledge
- Training value of the proposed projects
- Co-supervisory details/plans

WHAT training HQP will get

◊

HOW each student will receive this training

◊

WHO will deliver the training
Past Contributions to HQP Training

The training of HQP you’ve provided in the last 6 years (or, for those with research backgrounds in non-university setting, 10 years)

How have your contributions made a positive impact on your past trainees? (Discuss your role)

Have they published?
Have they won awards?
Do they hold a position that is worth highlighting?

Specialized methodologies/techniques?
Opportunities for interdisciplinary or industrial collaborations?
3,800 ch.

Additional Information on Contributions

Explain things that deserve explanation, highlighting, or attention

Nature of collaborations with others; your role in joint publications
Rationale or practice for order of authors; students in the list of authors
Venue selection rationale; target audiences
Impact or potential of patents & tech. transfer
Nature of industrially-relevant R&D
Significance of technical reports

...otherwise they won’t know
Most Significant Contributions to Research

11,400 ch.

Should be appropriate to proposal

Narrative style

Discuss the importance of the contribution to your target community (advancements, influence...)

For collaborative contributions, elaborate on your role

Focus on the impact your contribution made vs. summarized findings
explain the proposal in **plain language**

using **simple terms**, briefly describe the nature of the **work** to be done

**why** and **to whom** is the research **important**?

what are the **anticipated outcomes**; how will your field and Canada **benefit**?

- Write this piece **last**
- If it were the **only** thing a reviewer read, how would your proposal rate?
## Average Award Amounts and Group Success Rates (Early Career/Established)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Early Career</th>
<th>Established</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1501 – Genes, Cells &amp; Molecules</strong></td>
<td>$36,303/43,275</td>
<td>63/66%</td>
<td></td>
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<tr>
<td><strong>1502 – Biological Systems &amp; Functions</strong></td>
<td>$30,083/37,622</td>
<td>53/75%</td>
<td></td>
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<tr>
<td><strong>1503 – Evolution &amp; Ecology</strong></td>
<td>$28,810/34,381</td>
<td>60/76%</td>
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<tr>
<td><strong>1504 – Chemistry</strong></td>
<td>$33,000/66,554</td>
<td>50/81%</td>
<td></td>
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<tr>
<td><strong>1505 – Physics</strong></td>
<td>$29,128/38,785</td>
<td>71/90%</td>
<td></td>
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<tr>
<td><strong>1508 – Mathematics &amp; Statistics</strong></td>
<td>$16,374/20,660</td>
<td>63/79%</td>
<td></td>
</tr>
<tr>
<td><strong>1510 – Electrical &amp; Computer Engineering</strong></td>
<td>$25,727/37,313</td>
<td>65/74%</td>
<td></td>
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<tr>
<td><strong>1511 – Materials &amp; Chemical Engineering</strong></td>
<td>$26,063/33,066</td>
<td>52/79%</td>
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</tbody>
</table>

Source: [http://www.nserc-crsng.gc.ca/_doc/Professors-Professeurs/2013DGStats_e.pdf](http://www.nserc-crsng.gc.ca/_doc/Professors-Professeurs/2013DGStats_e.pdf)
Final Thoughts

Clear
Consistent
Complete
Compelling
Time for some Q&A

Don’t hesitate to ask!