NSERC Discovery Grant Writing Session

The Basics of a Discovery Grant

Andrea Craig, Research Grants Officer (NSERC)

E3-262 E.I.T.C. (Senate Chamber)
22 September 2016, 1:30 – 3:30 p.m.
NSERC Discovery Grant Writing Session
The Basics of a Discovery Grant

Presenters: Dr Neeloffer Mookherjee, Internal Medicine/Immunology
Ms Andrea Craig, Research Grants Officer (NSERC)

341 Basic Medical Science
26 September 2016, 9:30 – 11:30 a.m.
Finding the Office of Research Services

Start here!
Research Services Homepage

- ORS Overview
- FAQ
- Workshops/Resources
- ORS Funding Updates
- Three Funding Streams
- My Research Tools - MRT
- Forms
- Useful Links
- Contact Us

- Presentations
- Internal grants
- Tri-Agency pages
- Funding oppor.
- ORS Forms (FAAF, e.g.)
Objectives

- Overview
- Evaluation mechanic
- Evaluation criteria
- Application composition
Eligibility

• Subject Matter
  – www.nserc-crsng.gc.ca/NSERC-CRSNG/Policies-Politiques/subjectevalHealth-sujettevalSante_eng.asp and

• Faculty

*confirm eligibility early*
Program Vs. Project

“The Discovery Grants Program supports ongoing programs of research (with long-term goals) rather than a single short-term project or collection of projects.”
Summary of Changes to the Discovery Grant Program, 2014-2015

• DGs submitted on NSERC Portal

• CCV replaces Form 100 in Portal

• Narrative portions of Form 100 now found in Portal application
Evaluation Mechanics

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

1. Evaluation Groups
2. Equally weighted criteria
3. Peer Review Process
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

### EG: Average Award Amounts (2016-2017) and Success Rates (Early Career/Established-Renewing)

<table>
<thead>
<tr>
<th>Field</th>
<th>Average Award Amount</th>
<th>Early Career/Established-Renewing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1501 – Genes, Cells &amp; Molecules</td>
<td>$33,236/38,312</td>
<td>73/73%</td>
</tr>
<tr>
<td>1504 - Chemistry</td>
<td>$25,350/41,692</td>
<td>86/92%</td>
</tr>
<tr>
<td>1505 - Physics</td>
<td>$24,480/32,237</td>
<td>64/78%</td>
</tr>
<tr>
<td>1507 – Computer Science</td>
<td>$22,953/28,220</td>
<td>75/84%</td>
</tr>
<tr>
<td>1508 – Mathematics &amp; Statistics</td>
<td>$19,338/21,937</td>
<td>74/88%</td>
</tr>
<tr>
<td>1509 – Civil, Industrial and Systems Engineering</td>
<td>$22,953/28,220</td>
<td>75/84%</td>
</tr>
<tr>
<td>1510 – Electrical &amp; Computer Engineering</td>
<td>$31,600/42,149</td>
<td>83/72%</td>
</tr>
<tr>
<td>1512 – Mechanical Engineering</td>
<td>$24,481/31,716</td>
<td>82/82%</td>
</tr>
</tbody>
</table>

EG: Average Award Amounts (2016-2017) and Success Rates (Early Career/Established-Renewing)

### 1501 – Genes, Cells & Molecules

<table>
<thead>
<tr>
<th></th>
<th>Early Career Researchers</th>
<th>Established Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Rate</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td>Average Grant</td>
<td>$33,236</td>
<td>$38,312</td>
</tr>
<tr>
<td>Total Amount Awarded</td>
<td>$2,393,000</td>
<td>$5,555,260</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37%</td>
</tr>
</tbody>
</table>

### 1502 – Biological Systems and Functions

<table>
<thead>
<tr>
<th></th>
<th>Early Career Researchers</th>
<th>Established Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Rate</td>
<td>74%</td>
<td>85%</td>
</tr>
<tr>
<td>Average Grant</td>
<td>$26,942</td>
<td>$37,673</td>
</tr>
<tr>
<td>Total Amount Awarded</td>
<td>$1,427,930</td>
<td>$7,270,940</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36%</td>
</tr>
</tbody>
</table>

### 1508 – Mathematics & Statistics

<table>
<thead>
<tr>
<th></th>
<th>Early Career Researchers</th>
<th>Established Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Rate</td>
<td>74%</td>
<td>88%</td>
</tr>
<tr>
<td>Average Grant</td>
<td>$19,338</td>
<td>$21,937</td>
</tr>
<tr>
<td>Total Amount Awarded</td>
<td>$502,800</td>
<td>$2,522,740</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48%</td>
</tr>
</tbody>
</table>

2. 3 Equally Weighted Criteria

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

See “Discovery Grants Merit Indicators” handout
3. Peer Review Process

- Researcher submits application to NSERC
- Experts from around the world review the research proposal
- Expert review committees meet to recommend for or against funding
- NSERC reviews the recommendations and approves final funding
- NSERC provides feedback to applicant

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

<table>
<thead>
<tr>
<th></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>Excellence of researcher</td>
<td>![Happy Face]</td>
<td>![Happy Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
</tr>
<tr>
<td>Merit of proposal</td>
<td>![Happy Face]</td>
<td>![Happy Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
</tr>
<tr>
<td>Contribution to training of HQP</td>
<td>![Happy Face]</td>
<td>![Happy Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
<td>![Neutral Face]</td>
</tr>
<tr>
<td>Cost of research</td>
<td>High</td>
<td>Normal</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Funding "Bins"

- A (L, N, H)
- B (L, N, H)
- C (L, N, H)
- D (L, N, H)
  - N
  - O
  - P

Bin B  Bin J
A rating in any of the three criteria of ‘insufficient’ will result in an unsuccessful application.
Proposal Composition

Answering the call
Proposal Composition – Overall

- Researcher Excellence
- HQP Training
- Proposal Merit
- Researcher Excellence
- HQP Training
- Proposal Merit
Budget & Budget Justification

- Justify the purchase of what you are requesting – each budget item
- Supports details about your plans
- Consider a Gantt chart to clarify HQP involvement
- Ask for what you need to carry out proposed research, within reason (avg grant is ~$30k/yr)
- NSERC set page limit of 2 – use fully, but discuss budget only

✓ Salaries / Stipends
✓ Equipment
✓ Materials
✓ Travel
✓ Dissemination
✓ Other
Tri-Agency Open Access Policy on Publications

“Grant recipients are required to ensure that any peer-reviewed journal publications arising from Agency-supported research are freely accessible within 12 months of publication.”


University of Manitoba supports self-archiving: MSpace

- http://libguides.lib.umanitoba.ca/oa-publishing/self-archiving

UM NSERC site has links to policy, FAQ, and MSpace

- http://umanitoba.ca/research/ors/NSERC.html
Relationship to Other Research Support

• Discuss relationship - conceptual or budgetary (consider discussion an opportunity)

• Include HQP support details for each other source, if appropriate

• CIHR funding must be seen as separate – reviewers will be highly critical of blending of CIHR/NSERC funds
Proposal

- **Recent research progress** related to the proposal (esp. attributable to your previous DG)

- **Objectives** : short- AND long-term

- Pertinent **literature** : put your research into context

- **Methods** and proposed approach

- Anticipated **significance/impact**
Most Significant Contributions to Research

- the last 6 years
- 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 your role, and the impact the contribution made – avoid summarizing findings alone
Additional Information on Contributions

Opportunity to explain or highlight items that deserve attention:

• Journal choice

• Author order

• Identification of HQP authors

• Relevant items not captured in CCV
Highly Qualified Personnel

• all types of HQP; MSc & PhD the most (unwritten)
• visible throughout proposal
• be explicit: who, doing what
• what do you offer to HQP currently?
• what will you offer to HQP if funded?
• signed consent form or an email
HQP Training Plan

• Info pertinent to plans for HQP only
• Describe the work
• Discuss relevance and involvement
• Expected training outcomes
• Training value
• Co-supervisory details/plans
Past Contributions to HQP Training

• last 6 years

• your role and its positive impact
  – publications?
  – awards?
  – present position

• specialized methodologies/techniques?

• interdisciplinary or industrial collaborations?
Proposal Summary

- **What**: nature of work to be done
- **Why**: to whom is the research important?
- **Who**: briefly - introduce the team
- **How**: briefly - your plan to meet objectives
- **Outcome**: anticipated results
- **Impact**: anticipated benefits

Write in plain language

Easiest to write last
Discovery Grant Resources

- UManitoba-maintained NSERC page:
  umanitoba.ca/research/ors/NSERC.html

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

- Discovery Grant Program Guidelines/“Program Literature”:

- Resource Videos
  http://www.nserc-crsng.gc.ca/Professors-Professeurs/Videos-Videos/Index_eng.asp

- Complete 2015-2016 Peer Review Manual:
Final Thoughts

Clear

Consistent

Complete

Compelling
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