People. Discovery. Innovation.
Les gens. La découverte. L’innovation.
Strategic Outreach Presentation

January 28 – February 4th, 2015

Frederic Couty

Research Partnerships
Presentation Outline

1. What’s new at NSERC
2. What’s new with Strategic
3. Strategic Requirements
4. Strategic Application
5. Tips for Successful Applications
Summary

- Overview – focused and innovative research
- Requirements – training & partnership
- Evaluation Process and Criteria – strong in all 7
- Top 10 Tips – Start early!
What’s New at NSERC

New President – Mario Pinto

New Science, Technology and Innovation Policy - federal government

CFREF announced

Success of SPI – double the number of partners working with NSERC achieved!

NSERC 2020 – new goals for next 5 years
NSERC at a Glance

Priorities

People
Attract and retain the best students and researchers in Canada by supporting more than 30,000 students and postdoctoral fellows.

Discovery
Enable Canadian scientists and engineers to become global leaders in their fields by funding more than 11,000 professors for their research programs.

Innovation
Increase Canada’s prosperity by building connections and supporting the application of research by funding research projects with over 2,600 Canadian companies.

Total Budget 2014-15
$1.1 billion

- People: 33.0%
- Discovery: 37.0%
- Innovation: 25.0%
- Administration: 5.0%
2014-2015 Research Partnerships Budget ($299.1M)*

- Industry-Driven Collaborative R&D Program (48%)
- Strategic Partnerships Program (30%)
- College and Community Innovation Program (16%)
- Commercialization Program (2%)
- Training in Industry Program (4%)

*Does not include Networks of Centres of Excellence
Research Partnerships

Strategic Partnerships
- Strategic Project Grants
- Strategic Network Grants
- Collaborative Health Research Projects

Industry-Driven Collaborative R&D
- Collaborative R&D Grants
- Industrial Research Chairs
- Chairs in Design Engineering
- Interaction Grants
- Engage Grants, Engage+ Grants
- Partnership Workshops Grants

Training in Industry
- Industrial Postgraduate Scholarships
- Industrial R&D Fellowships
- Industrial R&D Internships
- Industrial Undergraduate Student-Research Awards

College and Community Innovation
- Applied R&D Grants
- Applied Research Tools & Instrument Grants
- College-University Idea to Innovation Grants
- Industrial Research Chairs for Colleges
- Innovation Enhancement Grants
- Technology Access Centres Grants

Commercialization
- Idea to Innovation Grants
What’s new for Strategic

• Same Target areas for 2015
• Addition of ‘Additive Manufacturing’ in the Manufacturing Target area
• New target areas are expected for the 2016 competition; consultations etc. to start in 2015
• Strategic Networks – deadline for LOI will be the same as for projects: April 1 2015
• Japan is no longer part of the international partners
• Joint Research Project: no pre-selection stage
Objective

To increase research and training in targeted areas that could strongly influence Canada’s economy, society and/or environment within the next 10 years.
Why the Strategic Project Grants Program?

- Focus on specific areas
- Opportunity to take research beyond the university
- NSERC will fund direct costs of a 3-year project (students, post-docs, consumables, equipment)
- There must be significant involvement from the partner BUT a cash contribution is not required
Requirements

The project must:

✓ Fall within one of the target areas
✓ Have well-defined objectives, scope and duration (1-3 years)
✓ Have one or more eligible supporting organizations actively involved in all stages of the project and able to apply the results
✓ In-kind contributions (cash is not required)
Target Areas

Priority research within:

Information and Communications Technologies

Environmental Science and Technologies

Manufacturing

Natural Resources and Energy

And within the ‘research topics’ listed and explained on the NSERC web page

http://www.nserc-crsng.gc.ca/Professors-Professeurs/RPP-PP/SPGTargetAreas-SPSDomainesCibles_eng.asp#manufacturing

Please note: Health and related life sciences and technologies are covered under the Collaborative Health Research Projects (CHRP) Program
Budget for Priority Research Topics

- Research outside the 4 priority target areas will **not** be considered for funding
- Research within target area + Outside research topics = Exceptional Opportunity (MUST be self-identified)
Eligibility of Applicants: Applicant and Co-applicants

• Must hold, or have a firm offer of, an academic appointment at an eligible Canadian university, for:
  – A tenured, tenure-track or life-time professor emeritus position;
  or
  – A term position of no less than three years

• College Faculty can be co-applicants (see NSERC Website for list of eligible colleges)

• Co-applicants outside NSE must meet NSERC eligibility requirements
## Co-Applicant vs. Collaborator

<table>
<thead>
<tr>
<th>Eligible to hold NSERC funds and is an essential member of the team.</th>
<th><em>Not</em> eligible to hold NSERC funds and should be contributing to intellectual direction of the project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be qualified to undertake research independently but bring their own funds to the project.</td>
<td>Can be members of the research team (i.e. government scientists, company staff members, research scientists from other countries).</td>
</tr>
</tbody>
</table>
Expected Results

• New knowledge/technology with strong potential to strengthen Canada’s industrial base, generate wealth, create employment and/or Canadian public policy

• Highly qualified personnel trained in the target areas

• Increased participation of companies and/or government organizations in academic research

• Transfer of knowledge/technology to Canadian-based organizations that are well positioned to apply the results for economic gain or to government organizations to strengthen public policy
A supporting organization must:

- Have a demonstrated interest in the project (letters of support, in-kind contributions)
- Be involved in all stages of the research (help to develop the proposal, interact with researchers and students, provide input to the project)
- Validate the results of the research
- Provide guidance concerning exploitation of results
Supporting organizations

• Refer to Guidelines for Organizations Participating in Research Partnerships Programs

• **Note:** NSERC funds cannot flow to a supporting organization in any way (e.g. cannot purchase equipment or supplies (even at a discount) from the supporting organization)
Non-Academic Supporting Organizations

- Private sector
  Canadian-based companies with Canadian operations (R&D or manufacturing) that can apply the research results for economic gain

- Public sector
  Canadian government organizations that can apply the research results to strengthen policies

- Do not qualify as supporting organizations:
  NGOs, venture capitalists, government research labs, foreign research institutions, potential customers
International Collaborations

- Concurrent call for joint research projects
  - Agence Nationale de la Recherche (France) and National Science Council (Taiwan), Research Foundation for the State of São Paulo, (Brazil)- ALL TARGET AREAS
  - Two separate but linked proposals: one submitted to each agency
  - Canadian applications must meet all Strategic Project Grant requirements
  - International agency will fund its scientists
  - NSERC has not reserved funds for applications related to international concurrent calls
  - Funding is on a competitive basis within regular SPG budget
  - Up to 3 additional pages are allowed.
  - There is no joint review
  - NEW: by-pass the preselection process…go to final round
What’s in it for the Partners?

Access to:

- Team of researchers with expertise in a desired area to solve a problem
- Technology/idea of commercial interest
- Research facilities and infrastructure that the industry lacks
- A potential source of highly qualified personnel

Competitive edge in global markets
## Strategic Results

<table>
<thead>
<tr>
<th>Competition Year</th>
<th># of Applications</th>
<th># of Awards</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>298</td>
<td>78</td>
<td>26.2%</td>
</tr>
<tr>
<td>2013</td>
<td>314</td>
<td>75</td>
<td>23.9%</td>
</tr>
<tr>
<td>2012</td>
<td>314</td>
<td>81</td>
<td>25.8%</td>
</tr>
<tr>
<td>2011*</td>
<td>425</td>
<td>70</td>
<td>16.5%</td>
</tr>
<tr>
<td>2010</td>
<td>547</td>
<td>122</td>
<td>22%</td>
</tr>
<tr>
<td>2009</td>
<td>465</td>
<td>122</td>
<td>26%</td>
</tr>
<tr>
<td>2008</td>
<td>352</td>
<td>129</td>
<td>37%</td>
</tr>
</tbody>
</table>
The Application
The SPG Application

- Application for a Grant (Form 101) Parts I and II
- Personal Data Forms (Form 100) + CVs of collaborators (6 pages max)
- Form 183a (partner’s information and contributions)
- Letter of support describing partner’s involvement (see instructions for specific items to be addressed)
  - **Note:** Letter of support and accompanying form 183A from government organizations **must** be signed by the Director General (or equivalent level)
The SPG Application (continued)

Applicants **must:**

- Select a target area and research topic from the list provided
- Clearly explain in Proposal module (under ‘Introduction’): 1) why the proposed research is strategic; and 2) how it fits the target area and addresses the research topic selected
- Provide a compelling case for consideration if the research falls outside the research topics but within the target area listed (“Exceptional Opportunity outside the Research Topics”)
Research Proposal- Format

• 11 pages total:
  – **Introduction** (~1 page) – Clearly describe the fit to target area, research topic. Why is the research you propose strategic? Is the application a re-submission? How have concerns been addressed?
  – **Section 1** (~7 pages) – objectives, approach, workplan, roles of team members
  – **Section 2** (~1 page) – training plan
  – **Section 3** (~1 page) – interactions with supporting organizations, capacity of supporting organizations to exploit results, Intellectual Property
  – **Section 4** (~1 page) – benefits to Canada

Additional pages – references (2 pages max), relationship to other research, budget justification, details of in-kind contributions
Additional Points to Consider

• Collaborations outside NSE: applicants are encouraged to collaborate with experts outside the natural science and engineering, where appropriate. Can represent up to 30% of the project costs.

• Overlap of funds: the onus is on the applicant to provide as much information as to how/why the project differs from those currently funded

• Provide as much detail as possible in the budget justification. Show all your calculations and how you arrived at totals presented.

• Provide justification for PDFs, remembering that they can only be funded for 2 years (exceptionally for 3)
Letter of Support - Key Points

- Support for and agreement with the proposal
- Reasons for being involved in the proposed collaboration
- Anticipated benefits from project outcomes
- Effort required to exploit results
- Benefits to Canadian economy and the relevant timeframe
- Anticipated interaction of personnel with the University
- Company’s contribution to the project
- Company profile (for small companies or start-ups)
How are projects evaluated?
Evaluation Process - Timeline

April 1
• Submission, pre-screening

May/June
• Pre-selection (if needed)

June/July
• External Reviews (3 per application)

Last 2 weeks of August
• Selection Panel (3 reviewers per app.)

October
• Results
Manufacturing 2014

- Applications Received
- Pre-screening
- Preselection
- Final Stage

Overall Success rate: 25% (81 → 20)
Pre-selection Process

• Used if too many applications received

• Applications evaluated against seven criteria

• Each application is assigned to two reviewers as per their expertise (current and previous panel members)

• Objective: look for major weaknesses: proposals receiving the lowest rankings are removed from the competition

• An application that is weak in any of the 7 criteria will be removed at this stage

• If application receive CC: rejected. BC?

(A: must be funded, B: should be funded if money is available, C: should not be funded)
Evaluation Process

- Projects are evaluated against seven criteria.
- Each criterion is graded from 1 (lowest score) to 4 (highest score). For details, see: [http://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/101/e.asp?prog=spg](http://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/101/e.asp?prog=spg)
- Each criterion is of equal weight.
- Only projects that are strong in all 7 criteria are eligible for funding.
Evaluation Criteria

- Originality of the research
- Quality of the research
- Project work plan
- Quality of the applicants as researchers
- Training potential
- Interactions with the supporting organizations
- Benefits to Canada and the supporting organizations
Evaluation Criteria

• Originality of the Research
  The project must promise to generate new knowledge or to apply existing knowledge in an innovative manner.

• Quality of the Research
  The project must be scientifically sound and technically feasible. It must fall within a specific target area.

Tips:
- Explain the fit to the target area clearly in the proposal.
- Explain both the basic and the applied aspects of the project.
Evaluation Criteria

• Project Work Plan

The project must have a clear and coherent work plan that demonstrates a high probability of achieving the objectives in the proposed time frame.

• Quality of the Applicants as Researchers

The research team must have all the expertise to address the defined objectives competently and to complete the project successfully.
Evaluation Criteria

• **Training Potential**
  The project must provide opportunities to train students and other highly qualified personnel with skills relevant to the needs of Canadian organizations.

• **Interactions with Supporting Organizations**
  The supporting organizations must have the capacity to apply the results of the research and must be actively involved in all stages of the project.
Evaluation Criteria

• Benefits to Canada and Supporting Organizations

The proposal must identify how the work will benefit the supporting organization(s) and must demonstrate that exploitation of the research results will benefit Canada within a 10-year time frame.
Signs of a Good Proposal

• **All sections are clear and well described:**
  - Clear summary, proposal easy to read
  - Roles well defined (students, applicants …)
  - Benefits to Canada clearly demonstrated
  - Guidelines followed and requirements addressed

• **Strong partner(s):**
  - Involvement from the start
  - Clear expectations (including IP)
  - Good communication
  - On-going interaction
Top 10 Tips

1. Start early! Take full advantage of the Research Office and NSERC staff. Their advice is invaluable.

2. Make the application comprehensible to people outside your field and position your project within the current literature/state of the art - Literature review should not be Task 1 of project!

3. Pay full attention to all aspects of the application, not just the research proposal (i.e. budget justification, in-kind contributions, relationship to other support).

4. Make sure the partner is going to benefit actively from the research and not just be an end user.

5. Explain the fit to the target area clearly.
Top 10 Tips

6. Ensure that all partners and co-applicants are fully involved.

7. Understand how your proposal will be evaluated (all criteria are equally weighted!).

8. Tailor your Form 100 to the Program you are applying to.

9. Explain both the applied and basic aspects of the project.

10. Have a peer review your proposal against the evaluation criteria
Resources

For questions relating to fit to target area, eligibility of partners or applicants or Program requirements, please send your query to:

STRGR@nserc-crsng.gc.ca

For questions/support regarding the on-line application process, please contact:

Helpdesk: (613) 995-4273
webapp@nserc-crsng.gc.ca
Questions?

Frederic Couty
613-944-7529
Frederic.couty@nserc-crsng.gc.ca

Manufacturing
Strategic Partnership Group
Research Partnerships
ADDITION INFORMATION
Our focus and goals are to.....

- Increase industry-academia partnerships
- Work with industry on their R&D challenges
- Transfer knowledge and technologies to the marketplace
- Provide students real-world training opportunities
Strategy for Partnerships and Innovation

Themes:
- Building sustainable relationships
- Streamlining access
- Connecting people and skills
- Focusing on priorities

Targets: By fiscal year 2014-15:
- Double the number of companies participating in NSERC programs;
- On track to double the number of industry partners by 2014-15 (1500 to 3000 in 5 years)

Next: working on SPI, part II
Growth in Company Participation


- Small Companies
- Medium Companies
- Large Companies
Do I have a chance to be granted if there is no Cash contribution?

- Cash + weak involvement = CRASH
- “Quality is better than quantity”
  - Number of companies
  - Manufacturer? Capacity?
  - Involvement (actively + all stages + receptor)
    - Set objectives (beginning + quantify)
    - Input at milestones
Summary

- Overview – focused and innovative research
- Requirements – training & partnership
- Evaluation Process and Criteria – strong in all 7
- Top 10 Tips – Start early!
Successful Applications
General Tips

• Read the instructions!
• Address all criteria
• Situate your research project with state of the art
• Establish clear goals and milestones
• Integrate students into the milestones
• Involve and integrate industrial partners
• Be realistic and honest
Successful Applications

General Tips

- Justify, Justify, Justify!
  - Budget expenses
  - Methodology
- Relationship to other research support
  - Be forthright – reviewers expect that one research project can build on another; just on duplication of funds for same project
Successful Applications
General Tips

- Up to date information on F100 (personal data form) for all involved in the project
  - Reviewers notice when it is out of date
Successful Applications

General Tips

• Industrial support
  • Letters of support matter! (If multiple partners, try not to have duplicate letters)
  • Outlines expected outcomes, benefits and reasons for supporting the project
  • Hosting students is very positive
  • Confirms cash and in-kind support
  • As much detail on in-kind as possible (who, what project, how long?)
Successful Applications
General Tips

• Collaborations outside NSE are possible!
  • applicants are encouraged to collaborate with experts outside the natural sciences and engineering, where appropriate. Can represent up to 30% of the project costs.

• Draft Proposals
  • Staff can review these (not Strategic) and comment on administrative aspects

• Contact staff with any questions
Successful Applications
Strategic Tips

• Due to the pre-selection process
  • Ensure your project has a summary/introduction that can be understood by a non-expert
Successful Applications

Strategic Tips

- Select a target area and research topic from the list provided
- justify how the project fits the TARGET area (context), not just the specific research topics
- Explain:
  1) why the proposed research is strategic; AND
  2) how it fits the target area and addresses the research topic selected
Successful Applications

Strategic Tips

• Provide a compelling case for consideration if the research falls outside the research topics but within the target area listed (“Exceptional Opportunity outside the Research Topics”)

• Funding decisions are announced in October. This should be considered in the activity schedule and workplan.
Successful Applications

Strategic Tips

• Funding is limited – success rate is about 25%
  • Pitch your research project!
• Self-identify if you are resubmitting
• Each criteria is weighted equally
  • Ensure that you have given sufficient detail for EACH criteria
• Failing on ONE criteria is enough to fail your project
Successful Applications
Final Advice!

• *Read* the Program guidelines
• *Meet* the Program criteria
• *Establish* strong partnerships with industrial sponsors
• *Contact* staff