Research Partnerships Programs
Partnering for Innovation

NSERC Networking PHEV Strategic Workshop
Delta Hotel, Winipeg Manitoba, November 1-2, 2007

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What We Do at NSERC

- We invest more than $875 million every year in people, discovery and innovation
NSERC Partnerships – a flexible continuum

Innovation Projects
- Strategic Projects
- Strategic Networks
- Collaborative R&D Grants
- Research Partnership Agreements

Building Critical Mass
- Chairs

Technology Transfer
- Idea to Innovation
- College & Community Innovation Pilot
- Intellectual Property Management & Networked Training
Strategic Partnerships Workshops (SPW) Program

Objectives

• Bring together academic researchers with non-academic end users to create new partnerships.

• Priority given to targeted areas of research, but other areas not excluded.

• Address research and technology needs that are identified by the user community.

• Primarily intended to seed new collaborations to generate proposals in the areas of research targeted by the Strategic Project Grants (SPG) and the Strategic Network Grants (SNG) programs.
Strategic Partnerships Workshops (SPW) Program

• Three-year pilot program
• $25,000 award value
• Funding available for 40 awards per year
• Awards support single or multiple events
• Intended for small, highly focused groups; attendance not expected to exceed 20 participants
• Not for established partnerships
Strategic Partnerships Workshops (SPW) Program

• Organized and championed by one university and one non-academic leader;

• Must include academic researchers and members of non-academic end user organizations;

• Participants have the expertise, experience and stature to implement the workshop results; and

• Awards may support Canadian and foreign participation.
Seven Target Areas

- Advanced Communications and Management of Information*
- Biomedical Technologies Competitive
- Manufacturing and Value-Added Products and Processes
- Healthy Environment and Ecosystems*
- Quality Foods and Novel Bioproducts
- Safety and Security
- Sustainable Energy Systems*

*additional funding received in 2007 Federal budget
Session C: Funding of PHEV

NSERC Strategic Programs

November 2, Ballroom A: 10:45 to 12:00
Delta Hotel, Winnipeg Manitoba
What We Do at NSERC

• We invest more than $875 million every year in people, discovery and innovation
NSERC Regional Offices

What we do:

- Ensure a visible presence in the regions and bring NSERC closer to students, researchers, and industry
- Raise awareness of NSERC’s activities and promote participation in the programs
- Create linkages between academic and private sectors
- Promote science and math education
- Celebrate and showcase success

Ontario & Québec:
Location TBD
2007-08
NSERC Budget 2007-08
(millions of dollars)

Discovery
$413 - 43.2%

Innovation
$193 - 20.2%

People
$307 - 32.0%

Administration
$44 - 4.6%

Total: $957
Innovation Programs Budget 2007-08
(millions of dollars)

- Strategic Partnerships: $88.7 - 45.9%
- Networks of Centres of Excellence: $40.2 - 20.8%
- Research Agreements: $9.3 - 4.8%
- CMC: $3.3 - 1.7%
- Technology Transfer Programs: $13.2 - 6.8%
- Collaborative R&D: $38.6 - 20.0%

Total: $193

1. Includes College and Community Innovation Program ($0.3M).
NSERC Partnerships –

* a flexible continuum *

**Innovation Projects**
- Strategic Projects
- Strategic Networks
- Collaborative R&D Grants
- Research Partnership Agreements

**Building Critical Mass**
- Chairs

**Technology Transfer**
- Idea to Innovation
- College & Community Innovation Pilot
- Intellectual Property Management & Networked Training
Why Participate in Research Partnerships Programs?

- See the results of your research reach an application outside of the university
- Gain access to industry facilities, personnel, valuable advice
- Create student training opportunity, access to equipment and market knowledge
- Beneficial collaborations that result in industrial or economic benefits to Canada
Our Track Record

• 1,300+ partner firms since 1983
• Over 60% of Canada’s Top 50 R&D firms
• Average of 100 new firms every year
• Broad range of eligible partners:
  • Large companies with R&D departments
  • Start-up firms with nascent in-house capacity
### Two Main Program Groupings

<table>
<thead>
<tr>
<th>PEOPLE</th>
<th>RESEARCH OPPORTUNITIES</th>
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</thead>
<tbody>
<tr>
<td>• Scout, work with or hire top doctoral, master’s &amp; undergrad. students</td>
<td>• Work with university or college researchers</td>
</tr>
<tr>
<td>• Upgrade your own staff</td>
<td>• Access specialized expertise &amp; facilities</td>
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<tr>
<td>• Access specialized facilities &amp; equipment</td>
<td>• Scout potential employees</td>
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<tr>
<td>• Accelerate your R&amp;D plans</td>
<td>• Commercialize discoveries</td>
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<tr>
<td>• Share costs</td>
<td>• Reduce up-front cost &amp; risk</td>
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NSERC Suite of Strategic Programs

Strategic Workshop Program (SWP)
Strategic Project Grants (SPG)
Strategic Network Grants (SNG)

Objective:

to develop and support research in targeted areas that could strongly enhance Canada’s economy, society and/or environment within the next ten years.
7 Strategic Target Areas

- Advanced Communications and Management of Information*
- Biomedical Technologies Competitive
- Manufacturing and Value-Added Products and Processes
- Healthy Environment and Ecosystems*
- Quality Foods and Novel Bioproducts
- Safety and Security
- Sustainable Energy Systems*

*additional funding received in 2007 Federal budget
Determining Target Areas

• 4 criteria for selection:
  – significant potential for social and economic benefit
  – critical mass of research expertise
  – pressing need for HQP
  – create timely opportunities for industry/government

• Analysis of international and national studies and consultations on research priorities

• Consultations with industry leaders and associations, federal science-based departments

• Broad consultation with university, industry and public sector research community to define research topics under each area

• 7 focus groups synthesized results and made recommendations
Strategic program timelines

• SPG – annual competition submission on April 15th

• Supplemental SPG Competition: submission October 1st
  – result of 2007 Federal budget funding; targeting 3 areas
  • Advanced Communications and Management of Information;
  • Healthy Environment and Ecosystems;
  • Sustainable Energy Systems (Production, Distribution and Utilization)

• SNG: last Call March 2007 (Current proposals in final review stages)
  – Next Call: Spring 2008, for 3 target areas
Strategic Projects

COMPETITION TABLE

- Applications Due April 15
- Pre-selection process, if necessary
- External Peer Review - Summer
- Panel Evaluation - September
- Results Announced – October
Strategic Project Grants (SPG)

- Early stage university research with the potential to lead to breakthrough discoveries in the future (5-10 yrs)
- Active involvement of non-academic participants - no cash required
- Target areas of national importance and emerging areas of potential significance
Why Strategic Project Grants?

• Significant financial support for up to 3 years for students, post-docs, consumables, …
• Although there must be significant involvement from the partner, a cash contribution is not required
• 25-30% success rate
Typical Strategic Project Grant

- Average grant: $130,000/year for 3 years
- Often involves several team members, from the same or different institutions
  - Some grants with single applicant
  - Researchers from the partner’s organisation sometimes are members of the team (as “collaborators”)
Strategic Project

4 Years - $435,000


Tele-monitoring and Mobile Intelligent Sensor Agent Networks

- To develop a new generation of networked wireless Intelligent Sensor Agents (ISA) for remote monitoring of hazardous environments

**University of Ottawa**
- Dr. Nicolas Georganas
- Dr. Dimitrios Makrakis
- Dr. Emil Petriu
- 7 Graduate Students

**QNX Software Systems**
- Information Tech Company
- Software licenses and training ($270,000 in-kind)

**CRC – Networked Media Laboratory**
- Dr. Thomas Whalen

**NSERC**
- Provide over 4 years $390,000 in funding

**INCO Ltd.**
- Mining Company
- Cash ($45,000)
- Access to experimental mine site and staff time ($150,000 in-kind)
Strategic Network Grants (SNG)

- Address large-scale complex research problems
- Benefit from a network or cluster approach – several universities and industry partners involved in exploring different aspects of a common research question
- Require a management structure
- Promote multidisciplinary research
- Create unique training opportunities
- Maximum 5 years ($500K to $1 million/year from NSERC)
Strategic Network Grants (SNG)

The program focuses on the same high-level strategic target areas as the Strategic Project Grants program.

- Advanced Communications and Management of Information
- Biomedical Technologies
- Competitive Manufacturing and Value-Added Products and Processes
- Healthy Environment and Ecosystems
- Quality Foods and Novel Bioproducts
- Safety and Security
- Sustainable Energy Systems (Production, Distribution and Utilization)
Strategic Networks Program Objectives

- Create knowledge and expertise that can most effectively be attained through large-scale multidisciplinary research projects
- Cultivate collaboration between university- and/or college-based researchers and Canadian-based organizations
- Transfer knowledge and expertise to Canadian-based organizations
- Train highly qualified personnel
- Provide social and/or economic benefits to Canada
Collaborative R&D Grants (CRD)

- Main vehicle for Canadian firms to work with university researchers
- At any point in the R&D spectrum
- Support well-defined, focused projects with specific short-to medium-term objectives, or
- Discrete phases in longer-range research programs
- Require signed research agreement between university and industrial partner
Collaborative R&D Grants (CRD)

- 1 to 5 years duration, usually 2 to 3 years
- Average grant $55,000 per year
- Industry responsible for at least 1/2 costs & must exploit results
- Flexible leverage: cash and in-kind
- 80-85% success rate
- No fixed deadlines
Collaborative R&D Grants (CRD)

Success rate is around 80%!

Reasons for success:
• Industry has worked closely with applicant to develop the project;
• Projects vetted and approved by the industrial partner;
• NSERC staff reviews drafts prior to peer-review;
• Applicant is provided opportunity to respond to negative reviews;

All CRDs funded meet NSERC's high standard of scientific excellence!
Industrial Research Chairs (IRC)

- Prestigious appointment of a distinguished researcher
- Industry provides 50% of cost in cash
- Initial appointment is for 5 years (renewable)
- Currently over 120 active faculty positions
- A significant university research program is established or enhanced in area of interest to industry