




INDUSTRY INNOVATION
RESEARCH collaboration



Programs to Enable Collaborations between Universities and Industry – Science and Engineering

Office of Research Services
March 2011





Overview



- **Variety of programs and funding opportunities:**

- Federal
 - NSERC – National Science & Engineering Research Council
- Federal and Provincial
 - MITACS
- Provincial
 - MRI - Ministry of Research and Innovation
 - OCE – Ontario Centres of Excellence






NSERC RPP



- **NSERC Research Partnership Programs (RPP)**


- foster collaborations between university researchers, colleges and other sectors, including government and industry, to develop new knowledge and expertise, and to transfer this knowledge and expertise to Canadian-based organizations
 - www.nserc-crsng.gc.ca/Professors-Professeurs/RPP-PP/index_eng.asp
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NSERC RPP



- **Interaction Grants (IG) Program**

- intended to financially support researchers from Canadian universities in their efforts to meet with Canadian based companies with the objective of identifying a company specific problem they could solve by collaborating in a subsequent newly established research partnership.
 - provides **up to \$5K** over three (3) months to support expenses associated with faculty travel and meetings in order to allow academic researchers to establish contact with one or several companies
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NSERC RPP



- **Engage Grants (EG) Program**

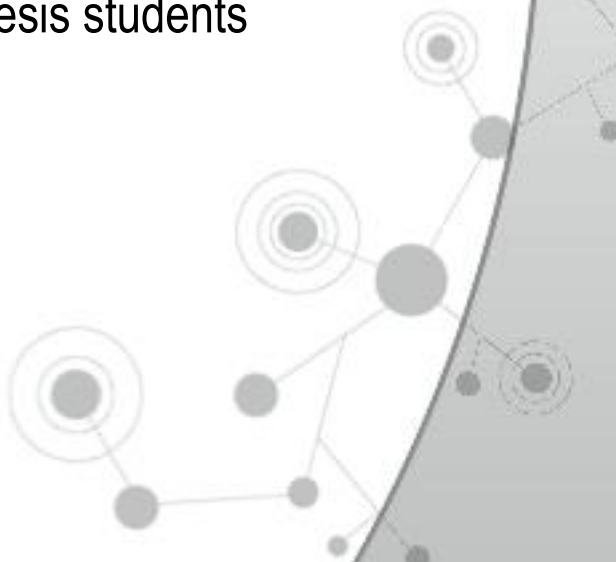
- intended to foster the development of **new research partnerships** between academic researchers and companies, that have never collaborated before, by supporting short-term research and development projects aimed at addressing a company specific problem
 - provides **up to \$25K** over six (6) months (maximum); in-kind contributions from the company are encouraged (cash not required)
 - funds are awarded to the academic researcher to cover the University's direct costs associated with the research activities needed to address the identified problem
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NSERC RPP



- **Engage Grants (EG) Program (cont'd)**


- projects must be focused with specific short-term objectives
 - under the terms of the Engage grant, forward IP (FIP) from the supported project belongs to the industry partner. Queen's personnel must acknowledge implicit waiver of Engage FIP if they participate
 - University does not encourage participation of thesis students in Engage projects
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NSERC RPP



- **Collaborative Research & Development (CRD) Grants Program**

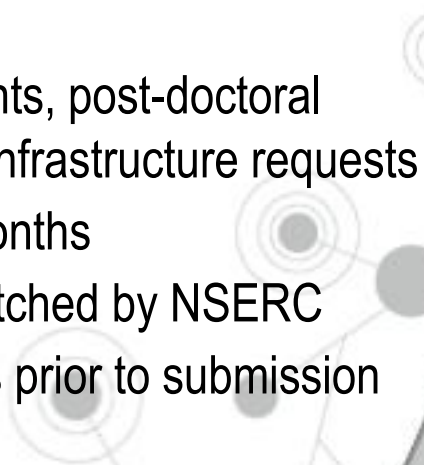
- intended to give companies that operate from a Canadian base access to the unique knowledge, expertise, and educational resources available at Canadian postsecondary institutions and to train students in essential technical skills required by industry
 - the mutually beneficial collaborations are expected to result in industrial and / or economic benefits to Canada
 - supports well-defined projects undertaken by university researchers and their private-sector partners
 - up to five (5) years in length
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NSERC RPP



- **Collaborative Research & Development (CRD) Grants Program (cont'd)**

- CRD awards cover up to half of the total eligible direct project costs, with the industrial partner(s) providing the balance in cash and in-kind
 - The cash contribution from industry must be at least half of the NSERC contribution
 - funding primarily for personnel (graduates students, post-doctoral fellows and research associates) and not major infrastructure requests
 - apply at any time: decision within three to five months
 - overheads taken out of industry cash are not matched by NSERC
 - industry contributions to the project three months prior to submission may be considered for leverage
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NSERC RPP



• **Idea to Innovation (I2I) Program**

- provides funding to university researchers for research and development activities leading to technology transfer to a new or established Canadian company
- distinct funding phases are proposed; phases are time-limited
 - Market Assessment
 - Phase I – Reduction to Practice Stage
 - Phase II – Technology Enhancement
 - Phase II a – Early Stage Investment Partner
 - Phase II b – Partnership with a Canadian Company
- direct costs of research in Phase I will be entirely supported by NSERC while those in Phase II are to be shared with a private partner
- four (4) application deadlines per year



NSERC RPP



- **Strategic Workshops Program (SWP)**

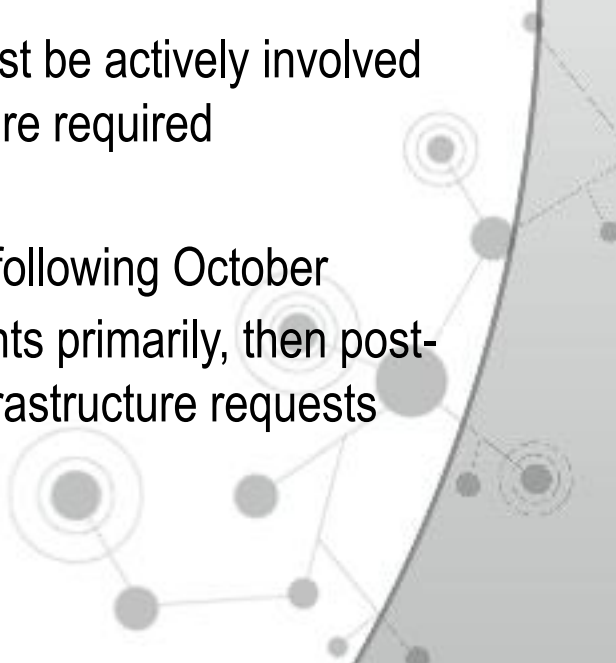
- a pilot initiative designed to seed new collaborations and partnerships between Canadian university researchers and potential new non-academic partners
 - intended to fund workshops for building new collaborations between Canadian academic researchers and the industry and government receptor community to address research and technology needs identified by the user community and that will result in future economic, environmental or societal benefits to Canada
 - provides **up to \$25K** over 12 months
 - pilot period has been extended until March 2011
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NSERC RPP



- **Strategic Project Grants (SPG)**

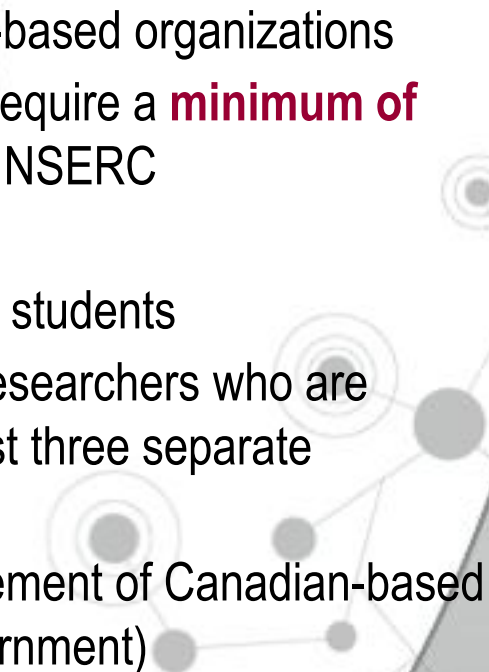
- funds early-stage project research in targeted areas that could strongly enhance Canada's economy, society and / or environment within the next 10 years
 - the supporting industry partner / organization must be actively involved in all stages of the project; in-kind contributions are required
 - duration may be from one (1) to three (3) years
 - applications due April of each year, decision the following October
 - funding primarily for personnel (graduates students primarily, then post-docs and research associates) and not major infrastructure requests
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NSERC RPP



• **Strategic Networks (SN) Program**

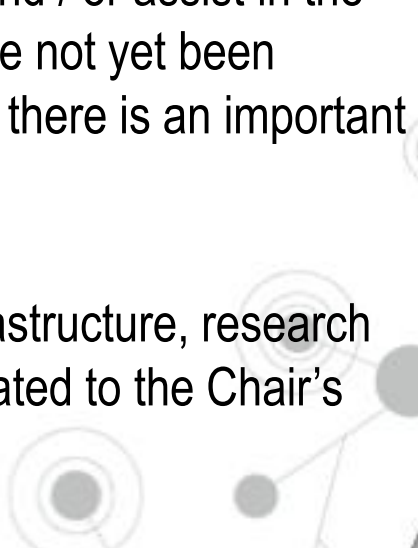
- large-scale, multi-disciplinary research projects in targeted research area that require a network approach and that involve collaboration between academic researchers and Canadian-based organizations
 - local, regional or national: Strategic Networks require a **minimum of \$500K and a maximum of \$1M** annually from NSERC
 - funded for up to five years
 - funding for project administration and graduate students
 - must involve a minimum of five (5) academic researchers who are eligible to receive NSERC funding, from at least three separate departments, faculties or institutions
 - have the strong commitment and active involvement of Canadian-based partners from relevant sectors (industrial, government)
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NSERC RPP



- **Industrial Research Chairs (IRC) Program**


- intended to assist universities in building on existing strengths to achieve critical mass required for a major research endeavour in science and engineering of interest to industry; and / or assist in the development of research efforts in fields that have not yet been developed in Canadian universities but for which there is an important industrial need
 - funded jointly by NSERC and industry
 - funds allocated to salary of the Chair holder, infrastructure, research tools and instruments, and general expenses related to the Chair's program of research
 - duration is five (5) years (renewable)
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NSERC RPP



- **NSERC Frontiers Innovation Program**

- open year-round, **minimum ask of \$1M** per year (minimum industry contribution of \$500k [after overheads])
 - industrial requirement-driven research requirement addressing economic competitiveness issue
 - funding distribution flexible, assessed on case-by-case basis
 - site visit required part of application process
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NSERC Scholarships & Fellowships



• NSERC Industrial Scholarships & Fellowships Programs

- provide funding to attract and retain new and highly trained talent
 - **Industrial Undergraduate Student Research Awards (USRA in Industry)**
 - business can test drive future employees
 - NSERC provides **\$4500 per student**; company pays \$1125 (minimum)
 - 12-16 week work term
 - apply at least four (4) weeks before the scheduled start date of the student's work term; decision takes approximately three (3) to four (4) weeks
 - **Industrial R&D Fellowships (IRDF)**
 - postdoctoral fellows join business as employees; accelerates business R&D
 - NSERC pays **\$30K per year**; company pays \$10K (minimum) per year plus fringe benefits and project costs (current average organization contribution is \$25,500)
 - up to two (2) years
 - apply anytime; decision takes approximately six (6) weeks



NSERC



- **NSERC Industrial Scholarships & Fellowships Programs (cont'd)**

- **Industrial Postgraduate Scholarships (IPS)**

- develops talent and acquaints students with business needs
 - student receives **\$21K per year** (NSERC)
 - minimum of \$6,000 per year from the company (half of that amount for part-time); \$15,000 per year from NSERC for full-time awards (half of that amount for part-time)
 - research of interest to host and relevant to thesis
 - up to 24 months at the master's level, and up to 36 months at the doctoral level; spends 50+ days in host company
 - apply at any time; decision takes approximately 2 months



NSERC Grants




• NSERC Collaborative Research and Training Experience (CREATE)

- supports the training of teams of highly qualified students and postdoctoral fellows through the development of innovative training programs that:
 - encourage collaborative and integrative approaches
 - address significant scientific challenges associated to Canada's research priorities
 - include the acquisition of professional skills and facilitate the transition of new researchers from trainees to productive employees in the Canadian workforce
- training initiatives focus on providing a **value-added experience** to the university training environment to better prepare research trainees for their future careers in industry, government or academia
- www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/CREATE-FONCER_eng.asp



MITACS



- links businesses, government and NFPs with Canadian universities
 - develops cutting-edge tools to support the growth of the knowledge economy
 - over 60% of its business stakeholders are SMEs
 - programs focus on developing and attracting a new generation of Canadian researchers and entrepreneurs
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MITACS

MITACS



- **MITACS Accelerate** - flagship program

- internship program offering students (graduates and post doctoral fellows) the opportunity to apply their research to real-world issues
- **total \$15K**; MITACS provides \$7.5K (via federal and provincial support) to internship costs; company provides matching cash contribution
- 4 month internship; longer projects are possible as multiples of 4-month internships and require more funding from the partner company
- student spends 50% of time in company
- apply anytime; applications should be submitted at least 6 weeks prior to the planned start date of the internship



MITACS



- **MITACS Elevate Industrial Fellowship Program**


- two (2) year pilot program for postdoctoral fellows working on a collaborative research project with an Ontario industry partner; spend at least 25% of their time working at the company's facilities
 - **\$55,000 stipend and \$10,000 in research funds** to support the research project; minimum \$30,000 industrial partner contribution
 - renewal of program not yet announced – normally November 1st deadline
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Ontario Centres of Excellence (OCE)



- **Connections**

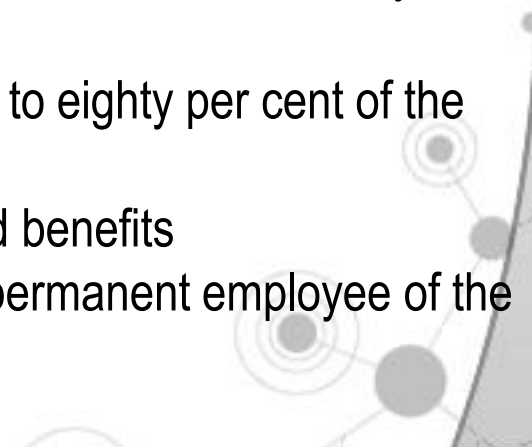
- targeted at final year undergraduate student teams
 - addresses industry technical problems and challenges
 - real-world industrial relevance
 - **up to \$3,500 per team**
 - September submission deadline
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Ontario Centres of Excellence (OCE)



- **First Job**

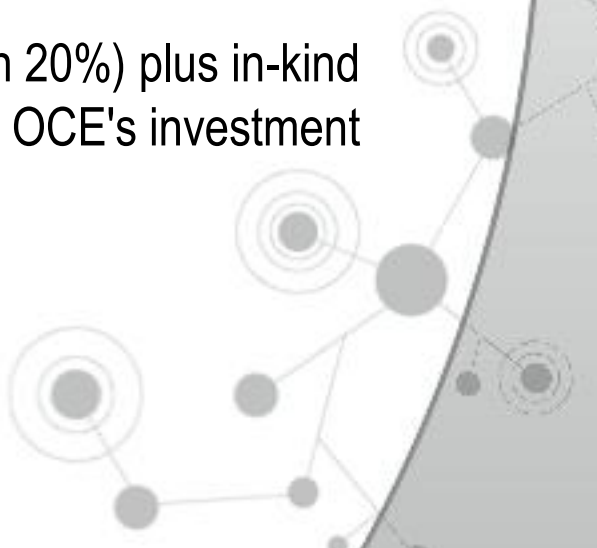
- helps Ontario companies hire knowledgeable, highly skilled graduates from Ontario colleges and universities
 - companies receive support for up to fifty per cent of the recruit's salary, **to a maximum of \$40,000**
 - start-up companies are eligible for support for up to eighty per cent of the recruit's salary, to a maximum of \$50,000
 - host companies provide the remaining salary and benefits
 - expected that the First Job intern will become a permanent employee of the company
 - next application deadline May 13, 2011
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Ontario Centres of Excellence (OCE)



- **Technical Problem Solving (TPS) Program**

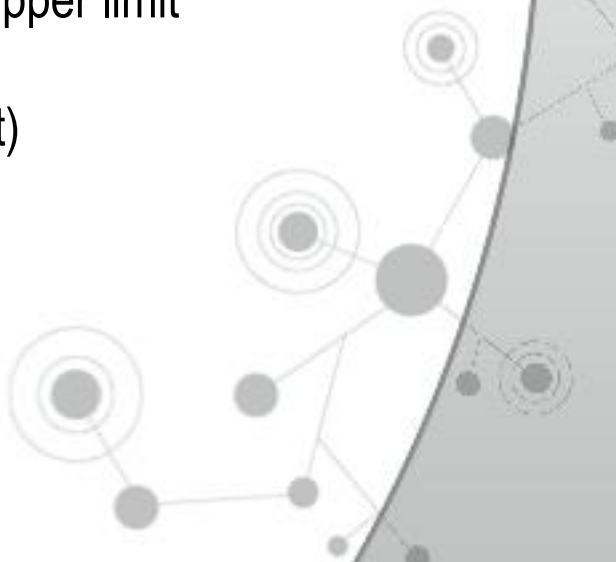
- short-term collaboration between industry and academia (4-12 months)
 - address specific challenges or opportunities
 - industry: access to unique facilities, research equipment and talent
 - academia: build relationships – solve real industry problems
 - **up to \$25K OCE investment**
 - industry partners must make a cash (no less than 20%) plus in-kind contribution to the project matching or exceeding OCE's investment
 - monthly submission deadlines
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Ontario Centres of Excellence (OCE)



- **Collaborative Research**

- industry-academic research partnership
 - develop commercially viable technology
 - industry: new revenues and high value jobs
 - academia: real world experiences and connections
 - **typical annual OCE investment of \$100K**; no upper limit
 - industry 1:1 matching cash and in-kind
 - 3 submission deadlines per year (Jan, April, Sept)
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Ontario Centres of Excellence (OCE)



- **Market Readiness**

- advance to next stage of commercialization
 - support new or existing company
 - technology and market assessment
 - business plan development
 - prototype development
 - **up to \$200K**; typical investments range from \$50K-\$75K
 - four (4) deadlines per year
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Ministry of Research and Innovation (MRI)




- **The International Strategic Opportunities Program (ISOP)**
 - funding for strategic international collaborations between Ontario research institutions and the global research community
 - priority to collaborations with researchers in: US, UK, Germany, France, Japan, China and India
 - applicant, institution, or a consortium of institutions may apply jointly with private sector partner(s), with one institution (a not-for-profit corporation) as the lead applicant
 - total funding per research collaboration initiative **normally does not exceed \$150K over three (3) years**; will generally fund up to 50% of the eligible costs on a one-time basis, with the balance coming from non-Ontario government sources
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Ministry of Research and Innovation (MRI)



- **The Innovation Demonstration Fund**

- financial support up to 50% of eligible costs to help Ontario companies with commercialization and initial demonstration of innovative technologies
 - available to Ontario Companies with Eligible Projects that will be undertaken in Ontario, and where the project will result in full scale commercialization in Ontario
 - funding potentially available **ranges from a minimum of \$100K to a maximum of \$4M** per project
 - apply anytime
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Contact Information



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