

People. Discovery. Innovation.
Les gens. La découverte. L'innovation.



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

Canada

NSERC tools: Partnering for Innovation

Research to Receptor Series 2009
Agriculture Solutions for Energy: Biomass

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Advantages of NSERC-funded R&D?

- Stretch research dollars
- Mitigate risk associated with R&D
- Solve problems/challenges
- Access new ideas
- Develop and train existing/future employees
- Establish long-term research collaborations



NSERC

Who we are

A key government instrument to make Canada a country of discoverers and innovators for the benefit of all Canadians

What we do

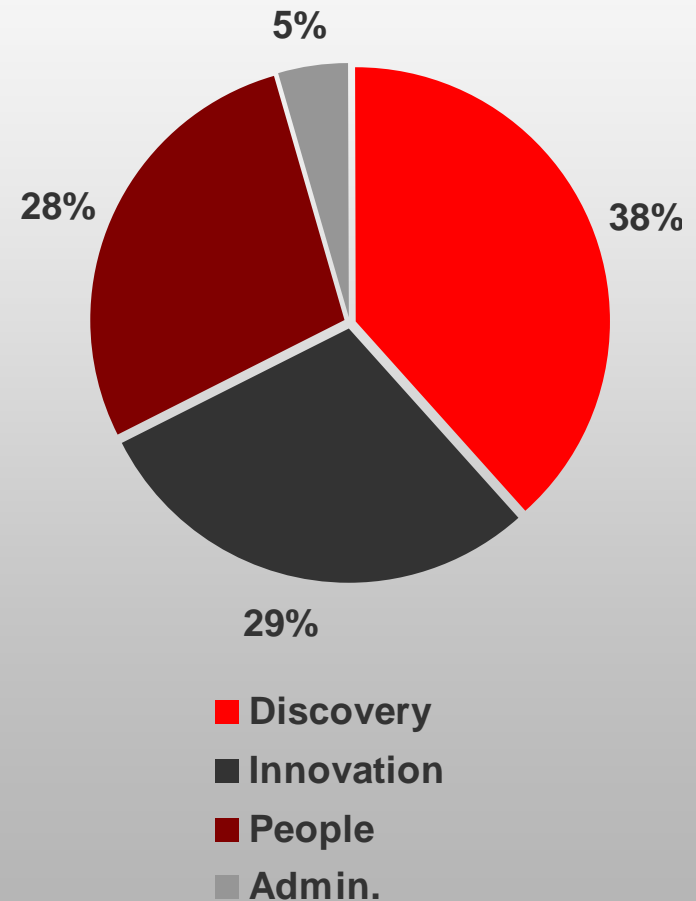
Invest in **People**, **Discovery** and **Innovation** through programs that support post-secondary research in the natural sciences and engineering



NSERC Key Facts

- 10% of federal S&T investment
- 18% of university R&D funding
- Annually supports
 - 28,000 students and postdocs
 - 11,800 university professors
 - 750 projects involving 1,500 companies
 - 100 new firms each year

Budget 2009-10
\$1.054 billion



Canada's S&T Priorities/Sub-Priorities

- **Environmental science and technologies**
 - Water (health, energy, security); cleaner methods of extracting, processing and using hydrocarbon fuels, including reduced consumption of these fuels
- **Natural resources and energy**
 - Energy production in the oil sands; arctic (resource production, climate change adaptation, monitoring); **biofuels**, fuel cells and nuclear energy
- **Health and related life sciences and technologies**
 - Regenerative medicine; neuroscience; health in an aging population; biomedical engineering and medical technologies
- **Information and communications technologies**
 - New media, animation and games; wireless networks and services; broadband networks; telecom equipment



N SERC Innovation – Main Thrusts

- **Strategic Partnership Programs (\$122M)**

Workshops, projects and networks in top-down Priority Areas

- **Industry-Driven Programs (\$72M)**

Market-driven research projects and industrial chairs

- **Tech Transfer/ Commercialization Programs (\$10M)**

Capacity building support and “proof of concept” projects

- **Industrial Scholarships (\$14M)**

Undergraduate – Postgraduate - Postdoctoral in industry



New Strategy for Partnerships and Innovation

Goal

Better **connect** and **apply** post-secondary research to create prosperity for Canada

Thrusts

Focus on priorities – build depth by focusing resources

Build relationships – bridge academia & industry

People and skills – make graduates more attractive to companies

Structural changes – draw on university and colleges research capacity



Example 1

Undergraduate Student Research Awards

Program objective

Help companies hire qualified undergraduates in-house for 16-week R&D assignments

Partner's benefits

Add to existing R&D capacity during the assignment

Enable assessment of students for full-time job offer

Cut on recruitment cost and time require to hire

Contributions

\$4500 from NSERC and 25% top up from the host company



- Jennifer Ried,
- chemical engineering student (UOttawa)
- USRA-recipient at Iogen in 2008.



Example 2

NSERC Bioconversion Strategic Network

Partnership

Researchers from 5 universities, 4 government agencies and 5 private sector organizations, co-led by Dr. Lee (UGuelph) and Dr. Saddler (UBC)

Research Program

Conversion of lignocellulosic biomass into fuel ethanol and valuable bio-based industrial chemicals

Budget

\$5.15 million over 5 years

Program objective

Increase research and training in targeted areas that could strongly enhance Canada's economy, society and/or environment within the next 10 years



Example 3

Industrial Research Chair

NSERC Industrial Research Chair in Plant Biotechnology



Dr. Peter McCourt

Dept of Botany, University of Toronto

Senior chair holder since 2000

Canada Research Chair in Plant Molecular Biology (tier 1)

Industrial partner

Performance Plants Inc, a global leader in
agricultural and biofuel biotechnologies
Kingston, Ontario



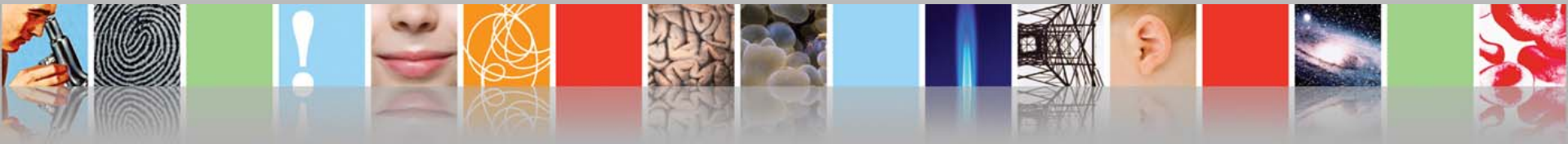
Program objective

Assist universities in building on existing strengths to achieve the critical mass required for a major research endeavour of interest to industry

Thank you

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Canada's 2007 S&T Strategy

Vision: Building a sustainable national competitive advantage through S&T and the skilled workers

Entrepreneurial Advantage

Translate knowledge into practical applications to improve our wealth, wellness and well-being

Core Principles

Promote Excellence
Focus on Priorities
Foster Partnerships
Enhance Accountability

Knowledge Advantage

Build on research and engineering strengths, generate new ideas and innovations, and achieve excellence

People Advantage

Grow the base of knowledge workers by developing, attracting and retaining highly-skilled people

NSERC Forest Sector R&D Initiative

- A partnership between government (NSERC, Natural Resources Canada), universities, and industry (FPInnovations and others)
- Goals:
 - develop programs that better align academic research with the forest sector's priorities
 - ensure these programs have commercial relevance
 - develop new value streams that diversifies and expands the sector's future market opportunities
- \$34M over five years



Bioindustrial Innovation Centre (BIC)

- One of 11 Centres of Excellence in Research and Commercialization funded in 2007-2008
- A \$50-million initiative to create Canada's leading centre for the commercialization of large-scale industrial biotechnology
- Strong support from companies and associations representing some of Canada's largest economic sectors: chemicals, energy, automotive, agriculture and forestry
- Expectation to support over 100 projects, create up to 1,000 jobs, and attract \$1 billion in new bio-based investments

