

Fonds de recherche du Québec

Nature et Technologies • *Santé* • *Société et Culture*

Science Policy in Québec: On the role of the Chef Scientist in the face of constant political changes

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Waterloo, Ontario

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Québec 



Québec & Science

- 1% of world publications
- High impacts in neurosciences, genetics, aging, aerospace, Northern research, economics,
- **Bigger impacts when published in collaboration with international partners**
- Need to translate results of research into innovation with economic & social impacts to foster true 'knowledge society'
- Strategy to increase our footprint :
 - creation of Chief Scientist post and coming together of three Research Funds under a single banner (2011)
 - launch of Québec's new Research and Innovation Policy (PNRI)- Oct. 2013

The FRQ & Chief Scientist

On July 1st 2011, Bill 130 created:

- Fonds de Recherche du Québec (3 Fonds)
- Quebec Chief Scientist Officer

AIMS:

- Increase competitiveness of Quebec researchers
- Increase International impact
- Foster large inter-sectorial research programs
- Improve public science literacy
- Promote knowledge mobilization

The Chief Scientist – Mandate

Rémi Quirion

Scientifique en chef
du Québec

Deputy Minister
level

- Advise the Minister and the government on research and development policy in Québec
- Ensure the development of intersectoral research;
- Lead Quebec international research & innovation policy
- Identify our society's great challenges and niches of excellence;
- Chair the Boards of the three Québec research funds and ensure their integration
- Support the development of the next generation of scientists

Scientific Directors- Mandates

Maryse

Lassonde

Nature & Technology
Research Fund

Renaldo

Battista

Health Research Fund

Normand

Labrie

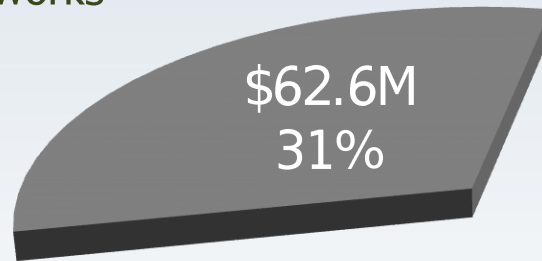
Society & Culture-
Research Fund

- Responsible for scientific content, partnerships and other activities for their respective Funds;
- Develop, in close collaboration with the Chief Scientist of Québec and the Board, the mission, objectives and priorities of their respective Funds, and determine the strategies and action plans. Strategic Plans 2014-2017
- Member of Board of Directors;
- Advise the Chief Scientist of Québec on issues pertaining to the sectors covered by their respective Funds.

Research Funding: A Global Portrait

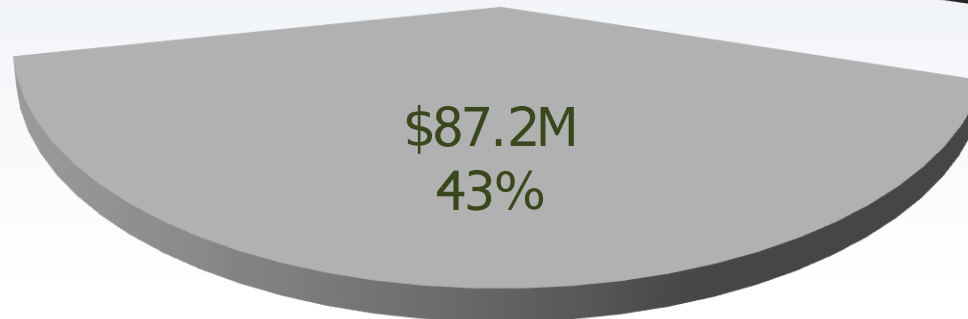
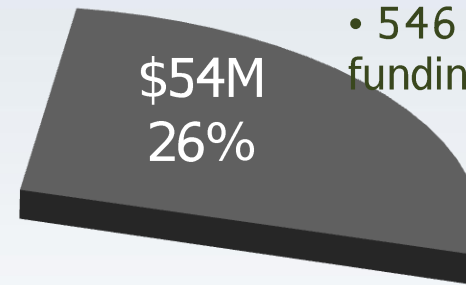
More than 1,200 Research Projects

- College researchers
- Partnership projects
- Innovation networks
- Team projects
- Career Awards
- Chairs
- Reviews
- Etc...



The New Generation

- 3,296 Scholarships (Master's, PhD and Post-doctoral)
- 546 Start-up funding



Infrastructure of Clusters

- 251 Research centres, Networks, Groups, Institutes, Teams...

Budget: \$203.8M

(including \$5.7 M from partners)

Research Funding Agencies' Annual Reports 2011-2012

Five global priorities for the FRQ:

- Support the training of the next generation of scientists and researchers
- Develop intersectoral research on few major societal challenges & niche areas
- Develop international partnerships
- Promote education in science and research

Training the next generation of scientists: Priority 1 for the Québec Research Funds

- Training of young scientists and researchers must be adapted to modern realities. Personalized training ? Entrepreneurship, hands-on internship experience, ethics and integrity, etc.
- Over 40% of Québec Research Fund resources go to supporting the next generation of researchers;
- 'Star student-researcher' program (since April 2012, on a monthly basis)
- Hosting more international students: a key objective
- Short-term fellowships- MITACS (3 to 6 months)
- Long-term fellowships- FRQ (up to 3 years)
- Training in partnerships with industry and NGOs—40% likelihood of getting a job with the training unit...

Partnership with the private sector: a priority of the FRQs

CRIAQ : Québec aerospace research consortium (with participation of Bombardier, Pratt & Whitney, CAE, SMEs, universities and research centres, ...)

PROMPT : Research partnership in microelectronics, optics and photonics, telecoms, smart grid (with participation of IBM Canada, Telus, Ericsson, CAE, Siemens, PME, universities, ...)

CQDM et MEDTEQ : Québec research consortia for the discovery of new drugs and for medical technologies

C2MI: Research consortium in the field of microelectronics

International dimension of these consortia: would bring strong value added

FRQ Research: Key international partnerships

- Over \$ 100 M invested by international organizations/ institutions in financial support for research contracts in Québec's academic institutions (2010).
- Partnerships with FWO (Belgium). Research grants for basic research (3 in 2013). Upcoming call for proposals focused on Québec's societal challenges ?
- C2MI/ UMI-LN2, a mixed international unit (nanoelectronics, energy, biochips). CNRS (France) supports the team (\$ 7.2M over 5 years) based at the Université de Sherbrooke (12 researchers including a expatriates from CNRS). Collaborations: INRS, U. Laval & McGill, EPM. Two other mixed international units on Nordic research (Laval) & Mathematics (Montréal).
- Strategy for International Partnerships (selected fields, Fall 2014). Training the next generation of researchers: a key priority.
- How to achieve that objective? Québec's new Research and Innovation Policy launched in October 2013

Québec's Research and Innovation Policy known as PNRI

Budget and key principles

- \$ 3,7 billion over five years (2014-2019)
- Objective: R&D spending at 3% of GDP (a bit less than 2.5 % in 2012-2013; highest in Canada)
- Principles that will guide our actions:
 - Balance between all types of research, whether in basic science or applied research, in public or private sectors;
 - Emphasis on intersectoral research, with a special focus on three societal challenges and 7 domains of excellence;
 - Importance of close collaboration between all stakeholders in our knowledge ecosystem. Partnerships carry substantial added value;
 - Excellence and rigorous methodology.

Striving for Excellence and Partnerships

- Additional support for the Québec Research Funds
- Increase of government support for research on ethics and governance
- FRQ financing for Calls for Proposals regarding Québec's societal challenges with a 'high risk/ potential' section in emerging fields
- International partnerships are essential (training new scientists and researchers; digital education; societal challenges; partnerships with the private sector, etc)

3 Societal Challenges and 7 Key Niches

- Demographic change: how to adapt the organisation of our society as it ages. First years of life.. Dementia; home care; culture and well-being...
- Sustainable development and electric transportation: better balance between human beings and their environment (climate changes, energy choices, mobility and modes of transportation, exploitation of modes of transportation, lifestyles), product life cycle, the North, 'Future Earth'
- Entrepreneurship & Creativity..The Quebec way..

Niche areas: Aerospace / Food Industry/ Biotechnologies / Clean energy/
Creative Industries / Personalized medicine/ ITC

Conclusion

- The Québec Research and Innovation Policy and the Québec Research Funds' strategic plans: an appeal to all to meet our great societal challenges, while ensuring adequate and long-term financing for both pre-commercial and applied research.
- Making choices. Working to our strengths and key sectors of excellence. Target and support emerging fields and niches. International collaborations are essential. Excellence and Partnerships: the cornerstones of our approach.
- 1st International meeting of Chief Scientists: 10 June 2014 in Montréal. Interested ?
- ... And on June 11th: 'Future Earth' & Sustainable development—a priority for Quebec and....Canada
- Quebec Chief Scientist—like being back in high school!! A roller coaster but fun....