Women in science: Tackling the gender gap

Maryse Lassonde, Scientific Director, FRQNT and President, Royal Society of Canada
Women’s Faculty Summit 2016, Concordia University
January 22, 2016
The Fonds de recherche du Québec (FRQ)

On July 1st 2011, Bill 130 created:

• Fonds de Recherche du Québec, regrouping 3 Funds: Nature et technologies, Santé, Société et culture
• Québec Chief Scientist Position

Aims:

• Increase competitiveness of Québec researchers
• Increase international impact
• Foster large inter-sectoral research programs
• Improve public science literacy
• Promote knowledge mobilization
Chief Scientist of Québec’s Mandates

Rémi Quirion
Chief Scientist of Québec
Deputy Minister level

• Advise the Minister and the government on research and development policy in Québec
• Ensure coordination of objectives and the development of intersectoral research
• Preside over Québec international research & innovation policy
• Identify our society’s great challenges and its sectors of excellence
• Preside over the Boards of the three Québec research funds and ensure their work is integrated and coordinated
• Support the development of a new generation of scientists
Scientific Director’s Mandates

- Ensure that the mission of the Funds is carried out
- Responsible for scientific affairs, partnerships and other activities of the Funds
- Define, in close collaboration with the Chief Scientist and the Board of Directors, the orientations, goals and priorities of the Funds, and determine strategies and action plans to be implemented
- Serve as a member on the Board of Directors
- Represent the Funds in dealings with various authorities and organizations and develop partnerships with academic, industrial and governmental stakeholders and the scientific community in general
- Advise the Chief Scientist on issues relating to the areas of expertise of the Funds

Maryse Lassonde
Fonds de recherche du Québec – Nature et technologies

Renaldo Battista
Fonds de recherche du Québec – Santé

Louise Poissant
Fonds de recherche du Québec – Société et culture
Research Funding: A Global Portrait

Budget: $208.3M
Source: FRQ Annual Reports 2014-2015

Research Centres, Networks, Groups, Institutes and Teams

- Research Groups
  - $79.6M
  - 38.2%

- Research Projects
  - $42.0M
  - 20.2%

- The Next Generation
  - $51.5M
  - 24.7%

- Career in research
  - $35.2M
  - 16.9%

Scholarships and Fellowships (Master’s, PhD’s and PDF)

- Research Scholars
- New Research Professors
- College researchers

• Partnership projects
• Innovation networks
• Team projects
• Chairs
FRQ’s Global Priorities 2014-2017

• Finance non-targeted research (90%)
• Develop Intersectoral research on major societal challenges & niche areas
• Develop International collaborations
• Develop Public-private partnerships
• Train the next generation of scientists and researchers
• Promote scientific culture and research careers
FRQNT’s Strategic Orientations 2014-2017

a) Position STEM research as a lever for Québec’s socioeconomic development

b) Start engaging Québec and foreign students in research at the college level
   i. Support the introduction of students — especially women — to NSE research at the college and bachelor’s levels

c) Increase basic research in emerging and cutting-edge fields
   i. Increase support for the establishment and career development of university researchers — paying attention to women's careers and researchers in regions

d) Accelerate knowledge and sharing between research and user communities

e) Increase support for intersectoral and international research
Some data to get the big picture
Number of full-time students in Québec universities, Fall 2014

<table>
<thead>
<tr>
<th>Domaine statistique dominant</th>
<th>2014</th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Baccalauréat</td>
<td>Maîtrise</td>
<td>Doctorat</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Féminin</td>
<td>Masculin</td>
<td>Féminin</td>
<td>Masculin</td>
<td>Féminin</td>
<td>Masculin</td>
</tr>
<tr>
<td>Sciences appliquées</td>
<td>25,9%</td>
<td>74,1%</td>
<td>29,4%</td>
<td>70,6%</td>
<td>27,5%</td>
<td>72,5%</td>
</tr>
<tr>
<td></td>
<td>6 593</td>
<td>18 863</td>
<td>2 081</td>
<td>5 000</td>
<td>1 073</td>
<td>2 833</td>
</tr>
<tr>
<td>Sciences pures</td>
<td>50,9%</td>
<td>49,1%</td>
<td>50,6%</td>
<td>49,4%</td>
<td>41,3%</td>
<td>58,7%</td>
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<tr>
<td></td>
<td>3 922</td>
<td>3 789</td>
<td>904</td>
<td>882</td>
<td>1 007</td>
<td>1 430</td>
</tr>
<tr>
<td>Total</td>
<td>31,7%</td>
<td>33,7%</td>
<td>32,8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 515</td>
<td>2 985</td>
<td>2 080</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Share of women in the student population in Québec, Fall 2014

- Baccalauréat
- Maîtrise
- Doctorat

Sciences appliquées
Sciences pures
Evolution of the proportion of women among graduate students
Participation of women in ranks – Physical Scs, Computer Scs, Engineering, Math.

Source: Strengthening Canada’s Research Capacity: the gender dimension, Council of Canadian Academies, 2012
Participation of Women in Ranks
SSH and Education

![Graph showing participation of women and men in ranks in SSH and education](image)

**Figure 3.2**
Percentage of Women and Men at Different Academic Levels in HSE
This figure displays the percentage of women and men in humanities, social sciences, and education in 2008–2009 at various stages of the academic career in Canadian universities.

Source: Strengthening Canada’s Research Capacity: The Gender Dimension, Council of Canadian Academies, 2012
Participation of Women in Ranks
Life Sciences

Figure 3.3
Percentage of Women and Men at Different Academic Levels in LS
This figure displays the percentage of women and men in life sciences in 2008–2009 at various stages of the academic career in Canadian universities.

Source: Strengthening Canada’s Research Capacity: The Gender Dimension, Council of Canadian Academies, 2012
Québec’s Teaching Body

Graphique 7
Proportion de femmes par groupe d’âge et répartition des professeurs par groupe d’âge et selon le sexe, 2010

Québec’s Teaching Body

Share of women among the candidates in FRQ's programs (as PI), 2014-2015

Nature et technologies

Maîtrise: 34%
Doctorat: 32%
Postdoctorat: 29%
Chercheurs boursiers (réguliers et cliniciens)*
Établissement en carrière: 25%
Projets de recherche: 19%
Domaines stratégiques (Programmes de partenariat pour l'innovation): 18%
Infrastructures de recherche (Regroupements stratégiques)

Santé

Société et culture

## Women's participation in the FRQNT’s funding programs

### Share of eligible application and success rate of FRQNT’s programs – Competition from 2003 to 2015.

<table>
<thead>
<tr>
<th>Étape de carrière</th>
<th>Demandes admissibles</th>
<th>Taux de succès</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Part des femmes</td>
</tr>
<tr>
<td>Maîtrise</td>
<td>7 124</td>
<td>37%</td>
</tr>
<tr>
<td>Doctorat</td>
<td>6 395</td>
<td>31%</td>
</tr>
<tr>
<td>Postdoctorat</td>
<td>1 828</td>
<td>26%</td>
</tr>
<tr>
<td>Établissement en carrière universitaire</td>
<td>1 112</td>
<td>21%</td>
</tr>
<tr>
<td>Projets de recherche</td>
<td>2 440</td>
<td>17%</td>
</tr>
<tr>
<td>Domaines stratégiques (recherche en partenariat)</td>
<td>581</td>
<td>17%</td>
</tr>
<tr>
<td>Infrastructures de recherche (regroupements stratégiques)</td>
<td>238</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Tous les programmes</strong></td>
<td><strong>19 718</strong></td>
<td><strong>30%</strong></td>
</tr>
</tbody>
</table>
Share of women in eligible scholarship applications, 2005-2011
Success rates for scholarship applications by field of activity, 2005-2011

- Energie: Femmes - 43%, Hommes - 37%
- Environnement: Femmes - 51%, Hommes - 46%
- Fabrication et construction: Femmes - 44%, Hommes - 47%
- Matériaux: Femmes - 51%, Hommes - 48%
- Nature et interactions de la matière: Femmes - 52%, Hommes - 54%
- Organismes vivants: Femmes - 53%, Hommes - 54%
- Ressources naturelles: Femmes - 55%, Hommes - 52%
- Structures abstraites: Femmes - 53%, Hommes - 55%
- Techniques, mesures et systèmes: Femmes - 50%, Hommes - 49%
- Technologies de l'information et des communications: Femmes - 39%, Hommes - 51%
- Total: Femmes - 51%, Hommes - 51%
Share of women in eligible grant applications, 2005-2011
Success rates for grant applications by field of activity, 2005-2011
Importance of developing its network of international collaborations

Scientific impact of articles, by gender/all ages

Representation of women in FRQNT’s scientific peer committees, 2014-2015

• 1625 eligible requests for scholarship and grant programs.

• 148 thematic and multidisciplinary evaluation committees bringing together 691 members (23% women) of which approximately 40% are from outside Québec.

• 380 external experts (19% women).
Initiatives to go further
FRQ’s initiatives for women

Postgraduate level:

• Scholarships admissibility is prolonged of one year when the applicant has taken a parental leave prior to applying.

• If the parental leave occurs during the scholarship tenure, a nine-month paid leave is given to the candidate.

• There is no limit to the number of parental leaves the applicant may have during the scholarship period.

• Moreover, the scholar can pursue her graduate studies half-time if the institution allows such a part-time attendance.
FRQ’s initiatives for women

PDF level:

• Same as above and

• Travel fees are covered for the whole family.

For all FRQ programs: Expenses related to child care/guardianship during congress meetings or field explorations are now admissible
Other FRQ’s initiatives

- Tri-council policy will be implemented in April 2016 to promote gender equity and diversity at all levels of functioning: boards, committees, evaluation policies, research methods.
- Gender parity is already present on the Board of each of the three Québec Research Funding agencies.
- Gender parity is achieved in the majority of evaluation committees.
- Annual follow-up of success rates according to gender in all our programs.
- The FRQSC (Society and Culture) together with the FRQNT (Nature and Technologies) have launched in 2014 a research program addressing the progression in retention of Québec women in STEM. Results will be presented at the Gender Summit meeting in Montréal 2017.
NSERC Chairs for Women in Science & Engineering

- Announcement of two new Chairs for Women in Science and Engineering
- Aim to increase the participation of women in science and engineering
- Provide role models for women active in, and considering, careers in S & E
  - $600,000/yr Can
  - Science promotion, mentoring, leadership, role modelling, etc.
- Five regional chairs across the country
  - 50% of time spent of CWSE activities
  - Additional support for a postdoctoral fellow
Tri-agency action plan on gender equity

• Develop a Policy Statement & monitor its implementation
• Report competition results by gender
• Representation of men/women on review committees
• Raise awareness of gender bias and of possible measures of counteracting it
• Integration of gender/sex considerations in the research content and diversity in research teams
• Review policies on caregiver leaves
• Incorporate mentoring and community service as valid research and training contributions
Montréal’s 2017 Gender Summit

• 2017 coincides with Montréal’s 375th anniversary and Canada’s 150th anniversary
• Summit co-led between FRQNT and NSERC
• Discussion with key partners is on going
  – CIHR, SSHRC, NSF, CONACYT, Portia, CNRS
• Program development at an early stage
• Aim to focus on all areas of research
  – STEM, health, social sciences and humanities, finance
Program themes (to be confirmed)

- The business case for diversity
  - Diversity considerations in decision making, whether it is research, business or other

- Themes of connectivity
  - Connecting the country for its 150th anniversary
  - Engaging with partners at the global level to address key societal issues

- Focus on pluralism, ethnicity, aboriginals
  - Gender diversity and tolerance

- Strengthen the GS3 Roadmap for North America and integration with international efforts
Key questions

• What issues have not yet been addressed at Gender Summits?
• Who do we really want to reach at the Summit and beyond?
• How can we bring the gender equity & diversity issue to the center stage?
• How to make that quantum leap to translate current evidence into real change?
From my own perspective...
Lassonde’s career in 3 lives

1977-1988
Université du Québec à Trois-Rivières

1988-2012
Université de Montréal

2012-...
Scientific director
Fonds de recherche du Québec – Nature et technologies
While doing fundamental research...

- Canadian Psychological Association, member of: Scientific committee, board-Neuropsychological division, accreditation committee, etc.
- Royal Society of Canada, member: Nomination committee, executive committee-Academy 1, etc., now President (3rd woman since 1882)
- ACFAS: Vice-president and President, 1993-1995
While doing fundamental research...

- NSERC: ALL committees!!!
- FCAR: Evaluation committees, board member
- FRSQ: Board member
- MRC/CIHR: Member of several committees
- Conseil Supérieur de l’éducation: Commission on Higher Education
- Conseil de la langue française: Commission on the future of French in science
The motivation pitch!

• **Recommendation #1**: Be part of committees – Any kind!

• **Recommendation #2**: Be part of International Congress – Organize them, present your results, meet your colleagues, etc.

• **Recommendation #3**: Be a little bit more “aggressive” if you want your career to progress.
Thank you for your attention!

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