# Interview: Rémi Quirion – Chief Scientist of Québec, Canada



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13.09.2017

Tags: Canada, Quebec, Healthcare, R&D, Innovation, Research

*Professor Rémi Quirion, chief scientist of Québec, discusses his mandate, encourages interprovincial collaboration between Ontario and Québec in the life sciences sector and explains the importance of engaging with civil society through social media to promote the value of research.*

**Rémi, your position might be considered rather unique and niche. Can you tell our international readers what the role of the Chief Scientist of Québec entails?**

As Chief Scientist, I am an advisor to the Québec government via the Ministry of Economy Science and Innovation. I report directly to Dominique Anglade, Minister of Economy, Science and Innovation, but in general the role itself covers a wide range of sectors such as health and agriculture. In short, my role is very much that of advising politicians. We provide evidence and based on that, they make decisions. This is the case of the Chief Scientists of the UK, New Zealand, to some extent, the US, and also of Anne Glover when she was Chief Scientific Adviser to the EU.

Another aspect of my role here in Québec is that I chair the three provincial research funding bodies, the Québec's Research Funds (Fonds de Recherche du Québec, FRQ) – covering Nature and Technology (FRQ-NT), Social Sciences and Humanities (FRQ-SC) and Health (FRQ-S). In addition to being an advisor to the government, I have a say when it comes to research priorities, funding excellence in research as well as establishing what are the major challenges for Québec are in the

next few decades. One of them is very health-related and is uniquely related to Québec: ageing. In terms of ageing population, Québec is second only to Japan. One of our focus areas is understandably how to prevent dementia and Alzheimer's, for instance. Special focus is also given to the impact of climate change. Québec has been the leader in Canada, and Canada, in turn, has been the leader worldwide in the fight against climate change. We have something called 'le fond vert' supporting research in the field of sustainable development.

**When we met in 2013, you mentioned that there was room for improvement in the way that Canadians and Québecois promote themselves and their excellence. Has this improved over the past four years?**

It has been difficult for the past four years but new opportunities have arisen now. The government of Québec decided, during the last budget review, to come up with the 'Stratégie de recherche et d'innovation du Québec (SQRI)', a five-year strategy for research and innovation. For the first time, after many years, we have a government commitment to increase the budget allocated to research by 20 percent. I am encouraging and challenging my colleagues at the federal level to do the same. Now we have more opportunities to attract and retain talent at both college and university level, as well as in terms of industry and professors.

In April, the panel charged with reviewing the federal government's support of fundamental science produced a report, written along with other experts by David Naylor, saying that investment should be increased in targeted and non-targeted research in the three funding organizations and the Federal level. I was a member of the committee and in fact, the only representative from Québec.

There is a third element that is more dependent on external developments. The election of Trump in the US as well as the political uncertainty produced by Brexit are all potential opportunities for Canada to attract new talents from all over the world. From a student's perspective for instance – they may find it more attractive to study and come to Canada instead of applying for a visa in a US institution. There are opportunities like this also in the health sector.

[Featured_in]

**What would you say are Québec's strengths in terms of innovation?**

First and foremost, our talents and our people, from graduates, PhDs to post-doctorates. In academia, we have a lot of talent. In industry compared to four years ago, we have more people. Secondly, our first-class infrastructure. Last year, for instance, Québec is investing over CAD 8

billion in the construction of three new hospitals. We have to make sure we have the ‘gas’ to run all this and we are focusing on this in the research and innovation strategy. Also, there is a sense of general trust towards Québec. Whenever I go abroad representing Quebec’s scientific landscape, the general reception of Québec in the life sciences sector is very positive. Montréal, for instance, has been crowned the best student city in the world in the 2017 QS Best Student City rankings.

**Regarding health, Québec has a long tradition in research excellence in the field of epilepsy, Alzheimer’s, oncology and rare diseases. What is Québec’s strategy to maintain this leading position in such a competitive environment?**

I believe infrastructure plays an important role. You need to have outstanding facilities to conduct outstanding clinical studies. In Québec today, we have good infrastructures, expertise and genomics.

In terms of genetic makeup of various diseases, such as cancer, what we are trying to do is create networks of experts to research on very specific types of cancer as well as open up to the industry, showing that they are able to recruit enough patients. A good example of this is Oncopole – a partnership with Merck – to support research on cancer in Québec. We came up and launched this partnership in February, Québec’s Minister of Health and Social Services, Gaétan Barrette, announced it at BIO in San Diego and now it is up and running. I am very optimistic that it will be very successful. This is a model that we would like to apply to other fields as well, such as dementia. We want to become more competitive as well as network a bit more as competition is global, and not just between Canadian provinces.

Another issue is access to data. We need to better computerize clinical care to have data that can be accessible to scientists and to researchers. I feel we have to do a bit better in Québec. For the time being, we are looking towards Scandinavian countries, which are ahead of us on this. Perhaps, we should look more at them in order to do better here in Québec and liaise more with the rest of Canada because ultimately, Canada has a very small population compared to, say, other Asian countries, and we need to compensate for this in other areas like digital infrastructure.

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**It seems like you believe in the power of a community made up of experts and thought-leaders from various fields using their knowledge to collaborate. How successful have you been in bringing people together?**

Unfortunately, the role that money plays in this type of initiatives is quite considerable. We would like to create networks where people collaborate a bit more but eventually it is all about money. If there is no money, in the end, it is pretty much business as usual. Now that we have our increase of 20 percent, all 17 recognized research centers in Québec will be able to better fulfil their joint mission to advance and promote international collaborations and partnerships. We will be able to reward those who do better, whereas before we were not able to deliver on our promises.

What I am trying to do now is networking a bit more with Ontario because if the two neighbouring provinces collaborate instead of competing, it would be very interesting for pharmaceutical companies as well. Ontario is looking to appoint a Chief Scientist as well and I was consulted by the Ontario government with regard to the development of the strategy there. The Québec government at the moment gets along very well with their colleagues in Ontario, which is not always the case. I am positive we will be able to work together and if this happens, we can reach almost 60 percent of the population in Canada, not to mention the strategic importance of the two provinces. This helps a lot when it comes to going to Ottawa and discuss priorities vis-à-vis the government.

At the more global level, I am currently discussing with the EU whether Québec can have a seat as an observer in development of the strategy of the EU after Horizon 2020.

**What are you doing to educate the public about science and in the various ways in which it may be needed?**

Science and research is usually very welcome not only in Québec, but also in Canada. People do realize more now than before the value of research. When it comes to ageing, for instance, there is an interest among the general public in in terms of access to care and more importantly, the kind of help that can be provided to the wider ageing community in general. It is a bit like the Swedish model, where most elderly care is funded by municipal taxes and government grants, with the healthcare costs paid by the elderly themselves being subsidized and based on specified rate schedules.

We are now developing the strategic plan of the three funding organisations in Québec and we submitted our proposals to the government in December. We decided to consult the public this time, which is a new feature. I was surprised to see that some of the most interesting suggestions related to ageing research came from the Gaspé Peninsula, a very isolated place in Québec with no universities or colleges. This is very positive and shows that we increased the visibility of research in Québec.

On each of the three boards of the Research Funds, we also have student representatives. I asked them to create a working group and come up with ways to interact with the younger generations and how to explain that, for instance, one has to be careful when it comes to online research as what comes up as the first option may not necessarily be the most accurate result. These guys make valuable propositions to explain the value of research or science a bit more to others and within their communities, with their neighbours, their friends. This is how you slowly change people's mindsets. The Ministry of Economic, Science and Innovation also rewards those in academia who are willing to do this and talk about the meaning of discovery. We have started a partnership with all the universities in Québec and with an agency of Québec, 'Agence-Science Presse', where every two weeks, we publish a story on their website.

It is very important because some newspaper headings can be misleading. We try to explain what it means when a potential cure for a disease is found. I, for instance, cured dementia many times – in rats, not in human beings. This is crucial when it comes to trust, because using strong headlines at the front page of a newspaper leads people to believe that they are true.

**To begin wrapping up, what is your vision for the next five years?**

In terms of science or research, ensuring excellence is always the biggest priority. However, what we are trying to make different compared to a few years ago is to enhance our presence in the civil society. This is truly our key element for the next five years. Furthermore, we have to change the way we did business in the past – we have to use social media. Civil society is much more knowledgeable than we think and it is by walking together that we understand what we need from each other. It is essential to have these key objectives in mind for the future because, if the civil society understands a bit more what we do and what our purpose is, the government will follow.

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