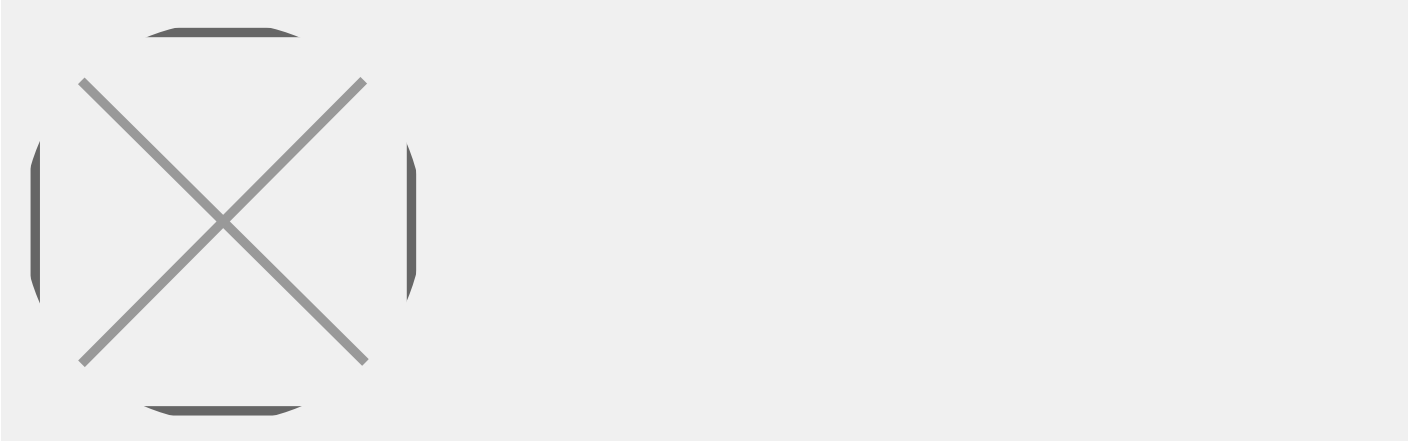
# Interview: Rémi Quirion, Chief Scientist of Quebec, Canada



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*Rémi Quirion, Chief Scientist of Québec, discusses how Canada needs to promote itself more aggressively, and highlights ways in which Canada can use industry-academia partnerships to its advantage, as well as international collaboration.*

**What areas of research and science are being targeted the most for investment in Quebec?**

In terms of health research and pharmaceutical sciences, neuroscience is very strong in Quebec. The province has a long tradition of research in the fields of epilepsy, Alzheimer's disease, depression, and schizophrenia. Oncology is another area of expertise. Rare disease is also important because of the genetic makeup of the Quebecois. Much of the population does not move around, resulting in an isolated group that can result in rare diseases.

**Of the three Fonds de Recherche, our readers will be most interested in the Fond covering health. What have been some of the highlights of this Fond in the last few years?**

The Fond de Recherche en Santé was created fifty years ago. The strategy for funding this organization has been to support the competitiveness of Quebec on the national and international scene, as a means of obtaining more dollars from Ottawa. 23 percent of the Canadian population is in Quebec, but the province's scientists get 35 percent of funds at the federal level. Quebec is

therefore highly competitive, especially in neuroscience and cancer. The province has led the way in identifying mutant genes associated with various diseases, most famously juvenile epilepsy. Quebec is also a leader in personalized medicine. There is a greater emphasis on genetic makeup and the environment in terms of determining which drugs should be administered to certain people. With the support of Genome Quebec, the Fond de Recherche en Santé and other organizations, Quebec will continue to develop rapidly in personalized medicine.

**What have been some of the synergies and partnerships that have come about as a result of the mandates of Bill 130 from July 2011?**

Since the three funding organizations are under the same umbrella, one of my challenges is to convince the expert scientists in various disciplines to work together more often. This can be a bit difficult; when you get a PhD, for a few hours you are the world expert on something. While Quebec still needs this, simultaneously these people really need to work together. I have been putting people trained in different fields around the table. Initially, the response is skeptical, since engineers, biologists and social scientists all speak in different languages. Once these experts start to exchange ideas, they realize that they can benefit from each other. For example, if I want to treat Quebec's ageing population, it is not just about a drug for hypertension. It is also about social support and a host of other factors. As the virtual world continues to grow and interconnect, a community of activity begins to form around various fields of expertise collaborating together. This is one of the primary mandates of this bill. One of the big projects for the three funds is "Ageing Wealth", a program that includes all aspects of healthcare, from molecular biology and engineering to social support and sustainable development. I want to bring this community of scientists from universities and the industry to the same table to work together.

**How can the Fonds help to align the public and private sector to get the province's R&D investment levels to those of 20 years ago?**

The province cannot be good at everything. In order to attract the best talent and funding organizations worldwide, Quebec has to decide where it wants to be among the top in the world. For example, Quebec's ageing society is a huge priority. This does not mean that adults and children are not important; but Quebec needs to be seen as a world leader in that field. Of course, these are difficult decisions to make because everybody believes that their area of research is the most important. But because Quebec has a very rapidly ageing society, second only to Japan, the province has to make that choice.

**Quebec is one of the few places in the world where you can carry out all phases of drug development. How does Quebec promote these attributes as a means of attracting more innovation and talent to the province?**

This is an area in which Quebec is struggling. The province has to change the way it does business in terms of being more aggressive. Quebec needs to let the rest of the world know of its strength, quality, talent, universities, and that the whole spectrum of drug development can be done locally in Quebec at a reasonable cost. In the past, Canada has not been aggressive enough to sell itself, which is the nature of Canadians. I think the world is small enough that if Canada does not promote itself, others will leave the country behind in the dust. Waiting for people to call us will not happen. However, that is not in the genes of Canadians, so the country needs to learn to be more aggressive.

**The foundation of the National Research and Innovation Policy (PNRI) aims to double the Fonds' budget, modernize training programs and provide more financial support for infrastructure. How will this concretely be implemented and how will it affect Quebec's R&D ecosystem?**

The PNRI is still in the process of being created. I am working with the Minister on this, and I am the one pushing to double the funding of the Fonds. In the context of the PNRI, I would like to continue supporting base funding for research in every field, since Quebec's research future is still somewhat unclear. Simultaneously, a choice must be made in terms of selecting two or three priorities the PNRI is approved, perhaps in ageing population, sustainable development, and electric transportation. As soon as government has adopted the PNRI, I hope to start receiving calls for applications in academia. This will be for everyone in both the private and public sector, trying to solve aspects related to ageing or sustainable development. These will be projects with five-year timelines involving both students and professionals. I am also pushing for at least 15 to 20 percent of this funding dedicated to international partnerships.

**Is there a real strategy you put in place in terms of fund allocation?**

My role is to convince the Minister that the Fonds have done well over the past twenty years, and that now the government should try to create more collaboration between funding organizations as well as the private sector. This cannot happen with today's budget. People have made some effort to collaborate, but there needs to be a carrot at the end. Once various research groups have learned to work together I think they will continue—particularly students, who are very keen on collaboration.

**How will you ensure that Quebec maintains its competitive edge in the coming years given competition popping up around the world?**

It is about making choices, so that the world is aware of Canada's foci, as well as strategic partnerships. Canada will definitely establish partnerships with China and India, and with the Northeast of the United States, where industry and education are world-class. There are a lot of opportunities in this particular region, which is why CQDM recently signed an agreement with the Massachusetts Life Sciences Center. I would like to see more of these partnerships. There is always competition; but instead of being a competitor, I think these strategic partnerships will allow Canada to compete with the rest of the globe if we want to be seen as a world leader.

**What is your vision for the next five years?**

I hope that if we succeed even slightly, that some of the discoveries made in universities are translated into better care. For a drug it is unlikely to happen today, but in five to ten years this will definitely happen. However, the healthcare system in general needs to be a bit more open to innovation. Quebec is used to doing business as usual. Healthcare takes up almost half of the budget, so this is extremely important. It is difficult for someone to make a discovery in Montreal and then develop a new medical device to test that it tested only in Quebec's healthcare system. It is not so much about being afraid of new challenges, but rather ironing out the province's current weaknesses. That is a big challenge. Bombardier does this with Quebec's aerospace industry. The corporation sits down with small companies and universities and discusses ways to solve a problem, find someone who is willing to be a research partner, find funding, and then solve the problem. I would love to have something like that in the healthcare system.  Quebec's healthcare system therefore needs to be more practical and efficient in its problem solving. It is all about changing the way people think. Canada seems very easy from the outside in healthcare, but in terms of tax, it is very complicated. It is not because a particular strength of Quebec cannot be implemented in Ontario. Each province wants to have the privilege of deciding by itself, and the federal government saying that is worse. Quebec does not want to lose that independence.

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