

PARTNER PERSPECTIVE

Laval Drives Canada's Leadership in Northern Science

By Debbie Lawes

Canada is the world's second largest Arctic country. It is also a – if not *the* – global leader in northern research, driven by the region's growing geopolitical importance and looming questions over Arctic sovereignty.

Rapid climate change and modernization in northern regions has intensified the need for data and knowledge to ensure local communities, policymakers and industries “get it right” in adopting strategies and practices that ensure sustainable economic and social development.

Much of Canada's rise as an international powerhouse in this field can be attributed to Université Laval. The Quebec City institution hosts what is arguably the world's largest concentration of scholars studying the far north, everything from the impacts on local communities and biodiversity to resource development and national sovereignty. This expertise is spread among 12 research

centres, two research institutes and the Laval-hosted ArcticNet Network of Centres of Excellence, one of the federal government's most successful research consortiums.

“Laval has been at the forefront of northern research for more than 50 years. This isn't expertise you develop overnight,” says Dr. Sophie D'Amours, Laval's vice-rector of research and innovation.

One of Laval's longest running programs, the Centre for Northern Studies, started with about 20 researchers and students when it launched in 1961. The centre now boasts some 50 scientists and more than 180 graduate students.

Nearly 10% of Laval's total faculty is involved in northern and Arctic research, including about 300 graduate students and 125 professors from nine faculties: science and engineering; social sciences; forestry and geography; agriculture; art, design and architecture; law; education, medicine; and business.

“For example, Michel Allard, a

geography professor here at Laval, has been working closely with our engineers on the effects of thawing permafrost for airports in Nunavik and Nunavut,” says D'Amours. “This multidisciplinary project will have broad implications for how and where we build these infrastructures, which will have a big impact on

program, supplemented by another \$30+ million from partners. This strategic funding helped to establish TAKUKVIK, a partnership with France's National Centre for Scientific Research (CRNS) that has brought six of France's top scientists to Quebec City to jointly study Arctic ecosystems and geosystems.

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issues such as safety as well as the transport of both people and goods.”

Sixteen of Laval's 125 professors are also research chairs, each with more than \$1 million in funding. One of the most prestigious is held by Dr. Marcel Babin, who received \$10 million in 2011 through the Canada Excellence Research Chair

Laval leads seven such northern research centres involving multiple universities from across Canada and internationally. Its crown jewel is ArcticNet, which sees over 145 Arctic researchers from across Canada and other countries, as well as northern communities and research institutes, conducting field work each

year aboard the CCGS Amundsen research icebreaker.

Since launching in 2003, ArcticNet has received more than \$113 million from the federal government and another \$173 million from public and private sector partners for state-of-the-art research and innovation. The network represents Canada's largest commitment to date to explore the social, economic and environmental impacts of climate change and modernization in the coastal Canadian Arctic.

Laval's most recent vote of confidence came from the Quebec government, which last month awarded \$3 million in seed funding to Laval, McGill University and Quebec's National Institute of Scientific Research (INRS) to establish the Institut Nordique du Quebec under the province's Plan Nord strategy. The new institute will draw on basic and applied research from the social sciences, natural sciences, engineering and health to generate the scientific and technical knowledge

needed for sustainable development in northern Quebec, a territory covering two-thirds of the province.

Such funding support is helping Laval buck a trend that saw Quebec universities drop 4.6% in research income in 2013, compared to a marginal increase of 1% for Canadian universities. Laval posted a 1.3% rise last year with \$306.8 million in research income.

D'Amours says the increase in research income reflects the excellence of Laval's science and the value it places on both partnerships and multidisciplinary research. “When you consider that provincial budgets are very tight right now, this recent investment from the Government of Quebec, and support from our other public and private sector partners, sends a strong message that excellent science and partnerships are essential to solving the complex challenges of today's world.”

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