

**ACTIVITY  
REPORT**

2018  
2019



**Institut nordique  
du Québec**  
Together for the North



# INQ at a Glance



**15**

Québec university member institutions



More than **225**  
affiliated researchers



More than **85**  
affiliated research institutions  
(research centres, laboratories, institutes and groups)



**60**

research chairs whose chairholder  
is affiliated with INQ



**4**

founding nations  
(Inuit, Cree, Innu and Naskapi of Kawawachikamach)



**\$800,000**  
for a joint call for projects in collaboration  
with Sentinel North



**3**

INQ research chairs



More than **15**  
outreach activities in 2018-2019



More than **100**  
research projects underway in  
Northern Québec and Northern Canada

# Vision

The INQ's vision is to develop a sustainable North through innovation and knowledge creation, and by integrating western science with local and traditional knowledge. In partnership with communities, government authorities and the private sector, INQ aims to help secure the well-being of all people in northern Quebec and the Canadian Arctic, now and in the future, by ensuring access to clean energy, conserving healthy ecosystems and the services they provide, building viable infrastructure, supporting economic prosperity and vibrant cultures, and strengthening northern education and healthcare systems.





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# Introduction

Institut nordique du Québec has the wind in its sails. Over the past year, INQ consolidated its membership and now boasts 15 universities and post secondary establishments across the province. Over 200 researchers and nearly 100 research centres or entities have joined INQ's ranks.

This unprecedented partnership is reflected in various facets of the Institut's development. Its research infrastructure facilities—now more numerous than ever—cover a vast area and are increasingly able to meet the aspirations of researchers and Indigenous community members alike.

The Uapishka Research Station (with which INQ has signed an agreement), in the heart of the Monts-Groulx range on the North Shore, is a perfect example of this desire to share knowledge and research infrastructure between INQ and the Indigenous communities.

Over the course of the year, INQ also got the green light from the provincial and federal governments to prepare the plans and specifications for its main research pavilion on the Université Laval campus. This strong endorsement of the \$83.5 million project confirms the unwavering support of our government partners to build a multidisciplinary hub for northern knowledge in Québec.

Given its expanding activities and new research endeavours, INQ also revisited its objectives and governance structure. INQ is proud to have begun work on its new 2019-2024 strategic plan and to have updated its executive and management committees as well as its working groups.

These initiatives, which were undertaken in a spirit of transparency and efficiency, have laid the groundwork to help the Institut pursue, together with its partners, this essential mission to consolidate northern research efforts and to ensure the transfer of knowledge to all members of society.



Eugénie Brouillet  
Chair, INQ Executive  
Committee

René Therrien  
Chair, INQ Implementation  
Committee

Jean-Éric Tremblay  
Acting Chair,  
INQ Implementation  
Committee

Brigitte Bigué  
Director,  
Institut nordique  
du Québec

## Message from the Science and Innovation Director



Hard at work!

Consolidated membership. Science complex planning underway. New agreements with partners. First call for projects. Institut nordique du Québec becomes operational. Implementation and executive committees begin work on first strategic plan... The list of objectives and actions required to meet our vision for the sustainable development of the North is impressive—and somewhat intimidating, at the same time!

Among our many tasks, one of the most urgent is to build bridges between researchers and research end-users, to ensure that the work done at INQ addresses the needs of the communities, as well as the private and public sectors. The mechanism we are considering to achieve this is a Québec northern research and innovation consortium (CRINQ), which will act as a platform to exchange information on the identification, planning and co-funding of projects aimed at resolving the challenges posed by the sustainable development of the North.

A second issue is mid- to long-term funding of 1) trans-sectoral research programs that help pool expertise; and 2) logistics giving researchers access to Northern Québec and the Canadian Arctic. A first step was made with the renewal the ArcticNet network of centres of excellence until 2024 with \$32 million in funding. A number of INQ-affiliated researchers at various member universities stand to benefit from this new funding.

With regard to logistics, the scientific operations of the CCGS *Amundsen* icebreaker recently got a boost from the Canada Foundation for Innovation (Major Science Infrastructure Programme), which should ensure its scientific operations through 2023. The ship will also undergo a major overhaul in 2021–2022, with a view to extending its useful life by 10 to 15 years. In terms of infrastructure, in addition to the inauguration of the Uapishka Research Station this year, our teams are working on a project to create research stations in Mittimatalik (Pond Inlet) and Qikiqtarjuaq, which will complement the growing network of stations already accessible. Lastly, in 2018–2019, significant progress was made in planning and carrying out a number of agreements designed to bring the various INQ member institutions closer together.

Québec is a northern land—a wonderful reality that will make itself felt in only a month or two. In the context of the development of Northern Québec and the Canadian Arctic, more and more of our young researchers, including Indigenous researchers, are taking an interest in the many facets of Québec's northern reality. INQ has a duty to provide these future experts with the means and the environment they need to allow their scientific passion for the North to flourish.

A handwritten signature in black ink, appearing to read 'Louis Fortier'. The signature is fluid and cursive, written on a white background.

Louis Fortier  
Science and Innovation Director, INQ



Press conference at the funding announcement for the construction of the INQ science complex.

## INQ science complex takes shape

With its new science complex, Institut nordique du Québec will be even more of a unifying force! A technological and knowledge hub for research on northern development, this pavilion, unique in Canada, will foster northern innovation, interdisciplinarity and teamwork. It will consolidate partnerships developed with northern communities and Indigenous nations, INQ's 15 member universities, the college network and public and private-sector stakeholders.

The funding and construction of this flagship infrastructure for northern research—a major \$83.5 million project—was announced on August 17, 2018, at Université Laval. This innovative project received the backing of the Government of Canada (\$25.5 million), the Government of Québec, through Société du Plan Nord (\$27.5 million) and the City of Québec (\$5 million). The remainder of the funding will be provided by Université Laval and its partners. Construction of the complex is slated to begin in 2021.

The INQ pavilion will be the standard-bearer for research devoted to providing answers to the immense challenges related to sustainable development and the upheaval in communities brought about by climate change. It will bring together, under one roof, social sciences and humanities, natural and health sciences and engineering. Its specialized facilities will include laboratories, storage space and workshops for technological innovation and the preparation of terrestrial and marine missions in the North.

With a view to encouraging partnership and knowledge transfer, the complex—the only one of its kind in the country—will house a videoconferencing room for communicating with northern communities and other partners. It will also boast spaces dedicated to training and research end-users

## A growing network

INQ will expand its infrastructure network to better serve local communities and researchers alike. In the coming years, INQ hopes to set up new infrastructure in the Eeyou Istchee-James Bay territory and north of the Saguenay-Lac-Saint-Jean region, in collaboration with Université du Québec à Chicoutimi and Université du Québec en Abitibi-Témiscamingue.

## RESEARCH STATIONS IN THE TERRITORY

INQ, in collaboration with Société du Plan Nord, has also developed components designed to meet the research needs of communities. These projects are aimed at different regions of the territory covered by the Plan Nord and will ensure INQ's territorial representivity.

### Uapishka Research Station in the heart of the Groulx Mountains

This region holds considerable potential for the development of traditional knowledge and scientific research. The uniquely located Uapishka Station is situated in an area that boasts a rich variety of northern ecosystems and remarkable geological phenomena, all within an extraordinary Indigenous heritage setting.

A partnership has been forged between Université du Québec à Rimouski, the Uapishka Research Station and INQ, to enhance research infrastructure in the North. The Uapishka Research Station is a research facility nestled in the foothills of the Groulx mountain range north of the 51st parallel, on the edge of the Manicouagan Reservoir. It offers a setting conducive to northern studies and meets the objectives INQ has set for itself, namely in terms of access to a territory where scientific research has been scarce to date.

Located within the Pessamit Nitassinan on a UNESCO-designated territory, the Uapishka Station offers accommodation, meals and logistics support services for scientific research. Open year-round, the station is staffed, in majority, by Indigenous employees.

### Umiujaq Research Station in Nunavik

The station is widely used by Canadian and foreign researchers to study climate dynamics, permafrost and sub-Arctic ecosystems. To meet the growing demand for access by researchers, some major expansion and relocation work is planned for this station that has been operated by Centre d'études nordiques (CEN) since 2010. Its administrators are hoping to use this expansion opportunity to innovate and build a test bed to demonstrate new, more eco-friendly and energy-efficient building techniques. Sensors for various energy efficiency parameters will be installed to assess the building's energy efficiency, making this infrastructure a valuable laboratory for demonstrating building techniques adapted to conditions in the North. The new building will be able to accommodate ten people instead of the six that it can currently house. There are also plans to include a room for training and knowledge transfer that will be available to the members of the community.



The Uapishka Research Station



Kangiqsujuaq Landscape

## Governance changing with the times

INQ is garnering attention and expanding its membership and its permanent infrastructure is growing fast. To reflect this progress, INQ has undertaken an overhaul of its governance, committees and organizational structure. This is necessary to ensure the Institut's responsible and inclusive growth.

The implementation committee was dissolved in April, once the framework for INQ was complete. It will be replaced by the science and development committee as of Fall 2019. Most of the existing working groups will become permanent committees on which representatives of INQ member institutions and partners will serve.

### OVERVIEW OF THE MEMBERSHIP

	Regular members	Affiliated Researchers	Affiliated Centres	Affiliated Chairs
	École de technologie supérieure	2	1	-
	Institut national de la recherche scientifique	17	3	4
	Polytechnique Montréal	7	2	2
	Concordia University	1	-	-
	Université de Montréal	11	8	2
	Université de Sherbrooke	8	6	2
	Université du Québec	-	-	-
	Université du Québec à Chicoutimi	12	10	9
	Université du Québec à Montréal	14	5	4
	Université du Québec à Rimouski	20	8	5
	Université du Québec à Trois-Rivières	5	-	1
	Université du Québec en Abitibi-Témiscamingue	2	1	-
	Université Laval	58	12	17
	McGill University	70	32	14
	Université TÉLUQ	-	-	-
	<b>Total</b>	<b>227</b>	<b>88</b>	<b>60</b>

# A growing and vibrant institute

Increasing fuelled by the drive and determination of partners to develop a sustainable North, INQ expanded its membership over the past year. The stakeholders united within INQ now represent higher learning and research institutions from every corner of the province. Here is an overview of the INQ regular members who are leading the way in northern research in Québec.



## École de technologie supérieure

ÉTS researchers are contributing to the sustainable development of the North by focusing their efforts on the impacts of climate change on the hydrology of northern regions. They are also interested in the energy sector, specifically dielectric materials, and the effect of ageing insulating systems used in electrotechnics.



## Institut national de la recherche scientifique

Three of the four centres that make up INRS are actively involved in INQ'S activities. Eau Terre Environnement Research Centre is devoted to Québec's sustainable development in hydrology, aquatic biogeochemistry, earth sciences, sanitation and reclamation. Armand-Frappier Santé Biotechnologie Research Centre has developed a unique expertise in the areas of human and animal health and sustainable environments, specifically in environmental biotechnologies and environmental toxicology. Urbanisation Culture Société Research Centre, through the DIALOG network and the ODENA alliance, provides leadership in the field of Indigenous studies, supports the social, economic, political and cultural development of Indigenous peoples and offers an innovative space for dialogue between First Peoples and university.



## Polytechnique Montréal

Polytechnique Montréal contributes to the development of the North and northern communities, notably through its engineering research and training. Dams and infrastructure, glaciology, geotechnics and permafrost, environmental engineering, structural geology, hydrology of cold regions, water quality modelling, geothermal energy, mining exploration and operations, rare earths... these are just some of the areas of specialization in which researchers at Polytechnique Montréal bring their unique expertise to INQ's work. Not only do they contribute by creating knowledge, but also by adapting civil and industrial infrastructure to the impact of climate change and to the transition to a more sustainable society.



## Concordia University

Concordia University is active in the field of renewable energies. A technical and economic feasibility study on the potential for geothermal systems in Nunavik is underway, with a view to boosting access to cleaner energy for remote communities in Nunavik.



## Université de Montréal

Université de Montréal is a catalyst for interdisciplinary and interinstitutional initiatives in both animal health and climate science. The university is a pioneer in northern arts studies and in research into the rights of First Peoples and is always in the vanguard on issues relating to territory and societies. Its numerous innovation labs are currently hard at work on incorporating knowledge related to experience, memory, culture, heritage, narratives and research. They are also striving for the improved integration into the university of First Nations and Inuit peoples, as well as their philosophies and cultures, from a perspective of recognition and reconciliation.



## Université de Sherbrooke

Researchers at Université de Sherbrooke are working on the characterization of water and snow in the North. They also specialize in remote sensing and geographic information systems (GIS) and are studying the complex relationships between human activity, climate change and natural risks in the North.



## Université du Québec

The member institutions of the Université du Québec network are conducting a wide range of teaching, research and creation and community services for, by and with various actors and communities in Northern Québec. They are engaged in several fields, including the health and development of Indigenous communities, traditional knowledge, the promotion and sustainable use of natural resources, ecosystem conservation and climate change. The team at Université du Québec actively supports initiatives put forth by the institutions and their partners and spurs collaboration to develop relevant, innovative and group-driven solutions to the major challenges affecting the future of northern populations and these territories.

## UQAC

### Université du Québec à Chicoutimi

The university boasts expertise in regional initiatives, land planning and use, history and archaeology, economy of the North and eco-consulting. UQAC has also made a name for itself in risk management in remote areas, whether for tourism engineering or the development and safe implementation of outdoor activities (touristic, educational, industrial or scientific).

## UQÀM

### Université du Québec à Montréal

At UQAM, 14 departments work in the North and Arctic. The training activities dedicated specifically to the North are divided into many disciplines: history, politics, tourism, literature, the arts, religious sciences, linguistics and sociology. UQAM researchers collaborate with Indigenous communities on projects to analyze social, cultural, economic and environmental issues related to the North and the wintery world. The UQAM Northern and Arctic Research Portal, available online, chronicles the research and training activities dealing with the North and Arctic that are carried out or organized at UQAM. This portal also aims to strengthen links between researchers from different disciplines and promote the development of multisectoral training activities.

## UQAR

### Université du Québec à Rimouski

UQAR is home to a diverse group of researchers who focus on northern environments from an interdisciplinary perspective. This critical mass of researchers is spread throughout several departments, as well as Institut des sciences de la mer, BORÉAS institutional research group, the Uapishka Research Station and five Canada Research Chairs which focus on northern biodiversity, integrative biology of northern fauna, geochemistry of coastal ecosystems, coastal geosciences and marine geology.



### Université du Québec à Trois-Rivières

UQTR boasts a dynamic environmental science department and is innovative in research on tourism, economics, engineering and health sciences. Its researchers have developed an interdisciplinary approach to understanding the transformations northern ecosystems and the cryosphere are undergoing. Experts in psychoeducation are helping improve services to the Inuit, while UQTR-trained midwives are assisting in childbirth and playing a vital role in Nunavik communities.



### Université du Québec en Abitibi-Témiscamingue

From the study of hydrogeological dynamics of aquifers north of the 49th parallel, to analyzing the impact of mining sites on northern biodiversity and developing best practices in ethical research in an Indigenous context, UQAT has positioned itself as a pioneer in participatory research with First Peoples. UQAT researchers have a strong and recognized expertise in forestry. As a result, UQAT hosts l'Institut de recherche sur les forêts (IRF), whose mission is to contribute to the maintenance of forest ecosystem services through an interdisciplinary approach to research, training, and the dissemination and integration of knowledge among the territory's many users.



### Université Laval

A pioneer for over half a century in northern and Arctic research, Université Laval is home to several major interuniversity research centres, including Centre d'études nordiques (CEN), Québec Océan (QO) and Centre interuniversitaire d'études en recherches autochtones (CIÉRA). It oversees the Sentinel North research program and is home to Institut nordique du Québec and ArcticNet, three front-line northern research initiatives. The CCGS *Amundsen* icebreaker, a state-of-the-art research ship deployed in the Arctic Ocean and Takuvik Joint International Laboratory (CNRS/UL), which is devoted to remote sensing of Canada's new Arctic frontier, are also hosted by Université Laval.



### McGill University

McGill University is the architect of the Centre for Indigenous People's Nutrition and Environment, as well as the Centre for Indigenous Conservation and Development Alternatives, the Quebec Centre for Biodiversity Science, the McGill Arctic Research Station and the McGill Institute for the Study of Canada. The mission of the RUIS McGill integrated university healthcare network is to provide Quebecers with improved access to healthcare. It is responsible for a territory stretching from Montreal to Nunavik, where it facilitates the delivery of care to inhabitants, along with teaching, research and the evaluation of healthcare technologies.



### Université TÉLUQ

With an outlook that's open to the world, Université TÉLUQ encourages and promotes learning at all stages of life and helps develop knowledge by offering a vast selection of online programs and courses available from anywhere in the world. Its training offerings are innovative and stimulating, both in terms of the content and pedagogical approach. Université TÉLUQ's teaching staff is devoted to developing new knowledge, high-level research and educational innovations.

## Leading research centres

INQ's affiliated research centres provide varied expertise to Québec's communities in fields ranging from social sciences and the environment to engineering and health. Nearly one hundred such centres are involved in INQ's research programming. Following is an overview of some of the centres at the core of the dynamic northern research scene:



### Terrestrial and aquatic environments

Founded in 1964, Centre d'études nordiques (CEN) is a pioneer in northern research in the province, with over 300 researchers, students, interns and professionals from 10 Quebec university institutions and one college. CEN contributes to the sustainable development of northern regions by fostering an understanding of, and the ability to, predict the changes affecting these environments. Its infrastructure network, made up of 10 research sites spread over a swath of territory stretching some 4,000 km in length, is crucial for northern researchers. CEN also spearheads the SILA network, whose objective is to characterize, quantify and evaluate environmental change. This network comprises over 100 automated stations acquiring data on a variety of environmental variables in eight bioclimatic zones across Northern Quebec and the eastern Canadian Arctic. In addition, CEN manages the freely accessible, online Nordicana D collection, which was created to deal with the ever-increasing amount of data generated by CEN's work and to meet the growing demand for access to it.



### Society and culture

The International Laboratory for the Comparative Multidisciplinary Study of Representations of the North, located at Université du Québec à Montréal (UQAM), is a centre for research, documentation and expertise on the northern and winter imaginary in literature, film, the visual arts and popular culture. It compares different northern cultures (Québécois, Inuit, Scandinavian, English-Canadian and Finnish). Since its founding in 2003, the International Laboratory has assembled some fifteen researchers at nearly a dozen universities (Québec, Sweden, Finland, Denmark, France, Israel, Canada, Germany, England, Iceland and Spain). The Laboratory boasts a number of collections and has published books in 14 languages of the North and the Arctic.



### Engineering

The product of the latest innovations in the burgeoning field of atmospheric icing and power network engineering, CENGIVRE has been coordinating research in this strategic area at Université du Québec à Chicoutimi since 2003. The Centre pools expertise and consolidates UQAC's international leadership with its numerous research entities, including the Industrial Chair on Atmospheric Icing of Power Network Equipment (CIGELE); the Anti-icing Materials International Laboratory (AMIL); the Canada Research Chair, Tier 1, on Icing and Power Network Engineering (INGIVRE); the Canada Research Chair on Insulating Liquids and Mixed Dielectrics for Electrotechnology (ISOLIME); the Research Group on Renewable Energy and Impact of Northern Climate (GREEN); and the Electric Machines Identification and Control Laboratory (EMICLab).



## Environment, Optics-Photonics, Sustainable Health

Funded by the Canada First Research Excellence Fund, the Sentinel North Strategy enables Université Laval to draw on over a half-century of northern and optics/photonics research. This research strategy focuses on developing new technology, training the next generation of transdisciplinary researchers and improving our understanding of the northern environment and its impact on human beings and their health. Sentinel North draws on the convergence of strategic areas of research in which Université Laval plays a national and international leadership role: northern and Arctic research, optics and photonics, microbiomes and cardiometabolic and brain health. It funds over 150 professors and more than 200 graduate students and postdoctoral fellows working on over 35 transdisciplinary research projects.



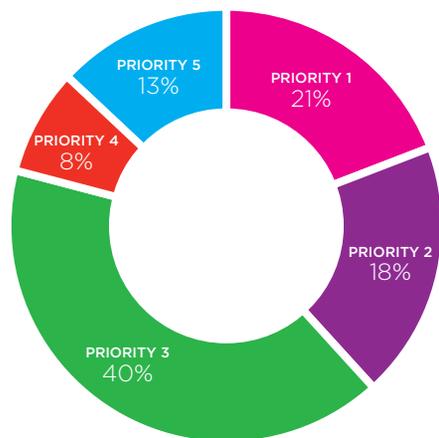
Thermokarst lakes in the Kwakwatanikapistikw River Valley (55°20' N, 77°30' W), north of the village of Whapmagoostui-Kuujuarapik.

# Ambassadors for northern research

More than 200 affiliated researchers are shaping northern research throughout the province. Engaged in training the next generation of students and working together to advance a host of multidisciplinary and interuniversity research projects, these researchers are innovating to make the North more sustainable. Below is a profile of some of the researchers who are proudly affiliated with INQ and are contributing to increasing our knowledge about Northern Québec.

## DISTRIBUTION OF THE EXPERTISE OF AFFILIATED RESEARCHERS ACROSS INQ'S FIVE RESEARCH PRIORITIES

- 1 Societies and Cultures - 49
- 2 Health - 41
- 3 Ecosystem Functioning and Environmental Protection - 96
- 4 Infrastructure and Technology - 18
- 5 Natural Resources - 29



Mountains of Bylot Island



**Guillaume de Lafontaine**  
(UQAR)

Guillaume de Lafontaine is a professor in plant ecology and chairholder of the Canada Research Chair in Northern Flora Integrative Biology. His research looks at the ecological, biogeographical and evolutionary responses of Arcto-boreal flora to the environmental variations induced by historical (Quaternary) and current (anthropogenic) climate changes. The integrative approach he uses in his research offers a conceptual framework that enables the collective study of various responses in order to acquire a global perspective, from genes to ecosystems.



**Suzanne Lalonde**  
(UdeM)

A professor in the Faculty of Law, Suzanne Lalonde is keenly interested in the international sphere and fundamental concepts governing interstate relationships, namely, sovereignty, territory and borders. After focusing her research primarily on the territorial domain, she subsequently developed an expertise in maritime law. Suzanne Lalonde explores the legal issues surrounding oceans, which have become an important reserve of resources and a growing cause of tension in international relations. Her research in international law is aimed specifically at the Arctic region, which is currently facing major challenges related to climate change, maritime nationalism and the exploitation of resources.



**Anne de Vernal**  
(UQAM)

A specialist in paleoclimatology, Anne de Vernal studies ancient climates by analyzing marine sediments collected from the ocean floor using core samples and drilling. Her work focuses on oceanographic, climate and environmental changes in mid- to high-latitude aquatic settings during glacial and interglacial episodes. She studies the assemblies of organic microfossils as bio-indicators of environmental conditions and develops approaches to carry out paleoceanographic and paleoclimatic reconstructions. Her research program aims to elucidate fundamental questions about ice-ocean-climate interactions at millennial and centennial time scales, including hot and cold climate extremes.



**Raoul-Marie Couture**  
(Université Laval)

Chemistry professor Raoul-Marie Couture heads up the aquatic geochemistry laboratory. He specializes in the study of chemical elements in lakes, soils and sediments. His work deals with the environmental and aquatic geochemistry of nutrients, as well as key elements like carbon and oxygen and potential contaminants like arsenic and selenium. He develops numerical models of reactive transport and lake dynamics to interpret data sets acquired in the field in boreal, sub-Arctic and Arctic regions. In doing so, Raoul-Marie Couture seeks to understand the factors affecting water quality, such as trace-element contamination, anoxia, eutrophication and climate change.

# Scientific program

INQ's scientific program stems from a massive, comprehensive, and inclusive consultation process involving more than 150 researchers and representatives of organizations and Indigenous nations.

1

## Priority 1 | Societies and Culture

Improve our knowledge of social and cultural issues of Northern Quebec by studying different development models as well as heritage, identities, territoriality, knowledge, living environments, and governance. This priority also emphasizes the planning of research agendas, compliance with ethics protocols in Indigenous settings, and the decolonization of research.

2

## Priority 2 | Health

In keeping with the themes and priorities identified by people in the North, and using a partnership approach, this priority focuses not only on research into illness and disease, but also on resilience, adaptation, and the positive aspects of health. Intervention research, both clinical and population-based, aims to identify optimal solutions and best practices to improve the health of northern populations and reduce health-related inequities.

3

## Priority 3 | Ecosystem Functioning and Environmental Protection

The ecosystems of high northern latitudes are feeling the combined effect of accelerated socioeconomic development, strong demographic growth, and global warming. This priority examines the consequences of such stresses on marine, terrestrial, and freshwater ecosystems in order to preserve and protect the food security and well-being of people living in the North. This research priority explores global warming, thaw, freshwater, food security, and the greenhouse effect, with an emphasis on coastal environments.



4

**Priority 4 | Infrastructure  
and Technology**

Developing Quebec's North will require new technologies and infrastructure adapted to its harsh environment characterized by a cold climate, remote communities, and melting permafrost. To address the needs of northern communities, this priority explores issues including the rapid implementation of telecommunications channels, development of environmental technologies to ensure the protection of the potable water supplies of northern communities, the development of infrastructure adapted to harsh environments, and the conversion and management of waste from a standpoint of health and sustainable development.

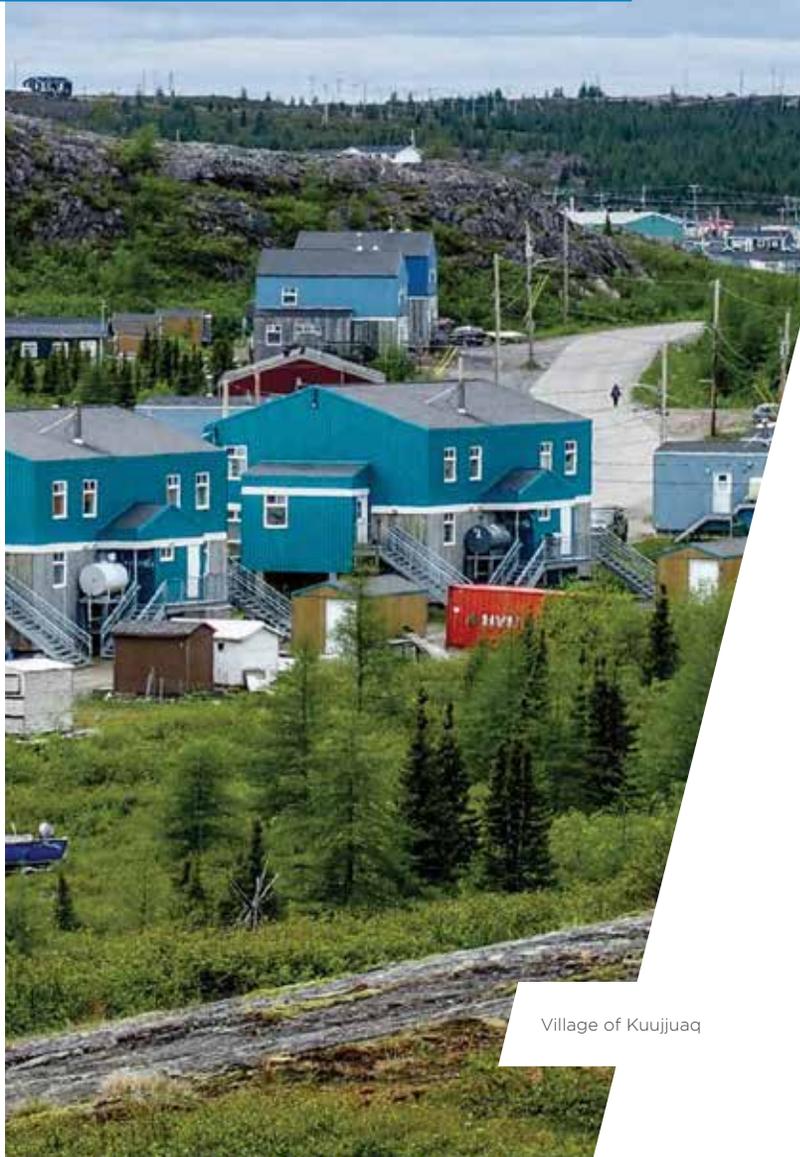
5

**Priority 5 |  
Natural Resources**

The North's ecosystems are home to considerable forest, mineral, hydroelectric, and wind resources. This priority looks at the economic value of natural resources while taking into account the extreme vulnerability of northern ecosystems to climate change and the impact of human activity. In keeping with the aspirations of northern communities, it will study and document overexploitation, seek to achieve social acceptability, and encourage the local spinoffs of economic activity. Through optimization and planning, this priority seeks to develop tools that will ensure that strategic resources in the North are developed in a sustainable manner.

# A constantly evolving collaborative effort

All of the working groups were invited to reflect on INQ's 2019-2024 strategic planning.



Village of Kuujuaq



## WORKING GROUP ON NEW AND RENEWABLE ENERGIES

**Role:** Gain greater insight into existing energy infrastructure, assess and anticipate energy needs and resources, document the impacts of the energy transition, support and transfer new knowledge to stakeholders on the ground, identify legal levers and propose solutions to improve existing regulations.

**Main Achievement:** Development of partnerships with private companies and government agencies, with a view to creating new multidisciplinary research projects. Together with its new partners, the group has already submitting proposals to two calls for projects, to secure funding.

### Chair

**Jasmin Raymond**  
(INRS)

### Members

**Alain Forcione**  
(Institut de recherche d'Hydro-Québec [IREQ])

**Gaétan Lantagne**  
(IREQ)

**Hakim Nesreddrine**  
(IREQ)

**Cédric Carbez**  
(Nergica)

**Christian Carrier**  
(Carboniq)

**Christophe Krolik**  
(Université Laval)

**Francois Mathieu-Potvin**  
(Université Laval)

**Louis Gosselin**  
(Université Laval)

**Mathieu Olivier**  
(Université Laval)

**Patrick Gonzalez**  
(Université Laval)

**Daniel Martineau**  
(Crown-Indigenous Relations and Northern Affairs Canada)

**Francois Bouffard**  
(McGill University)

**Fuzhan Nasiri**  
(Concordia University)

**Guy Robichaud**  
(Société d'habitation du Québec [SHQ])

**Jean-François Gravel**  
(SHQ)

**Myriam Blais**  
(SHQ)

**Julia Purdy**  
(Natural Resources Canada)

**Martin Bourbonnais**  
(Cégep Jonquière)

**Mathieu Payeur**  
(Transition énergétique Québec [TEQ])

**Richard Gagnon**  
(TEQ) **Michel Verrault**  
(Société du Plan Nord)

**Nicolo Giordano**  
(INRS)

**Taha Ouarda**  
(INRS)

**Véronique Gilbert**  
(Kativik Regional Government)

### Coordinator

**Debra Christiansen-Stowe**  
(Institut nordique du Québec)



## WORKING GROUP ON INFRASTRUCTURE

**Role:** Coordinate and facilitate access to and use of all INQ infrastructure, facilities and services. Optimize the management, use and acquisition of infrastructure for the benefit of the various components of INQ and its partners.

**Main Achievement:** Made improvements to Lab-O-Nord, the web-based inventory of all the research infrastructure available to INQ members and developed a policy for the loan and rental of equipment.

### Chair

**Christine Barnard**  
(CEN/Université Laval)

### Members

**Alexandre Forest**  
(Amundsen Science)

**Brigitte Robineau**  
(Québec-Océan/  
Université Laval)

**Keith Levesque**  
(Sentinel North/  
Université Laval)

**Louis Frenette Nolin**  
(Université Laval)

**Marie-Hélène Forget**  
(Takuvik/Université Laval)

**Nathalie Foisset**  
(McGill University)

**Stéfane Prémont**  
(INRS)

**Sylvain Tougas**  
(Institut nordique  
du Québec [INQ])

### Coordinator

**Debra Christiansen-Stowe**  
(INQ)



## WORKING GROUP ON EDUCATION AND TRAINING

**Role:** Make an inventory of existing training programs on Northern Québec available at the founding partner universities. Support universities in their initiatives to train students, future stakeholders in the North and professionals working on northern issues. Develop an uncredited continuing education program for transferring knowledge to students, professionals and the general population. Offer an uncredited general training program on Northern Québec in the form of a nanoprogram. Encourage the involvement of Indigenous people in all aspects of training and throughout the students' educational program.

**Main Achievement:** Designed and implemented a summer school entitled: An introduction to northern research and issues.

### Chair

**Michel Allard**  
(CEN/Université Laval)

### Members

**Caroline Hervé**  
(Université Laval)

**Gina Muckle**  
(Université Laval)

**Marie Audette**  
(Université Laval)

**Jim Howden**  
(McGill)

**Marie-France Gévry**  
(Sentinel North/  
Université Laval)

**Monique Bernier**  
(INRS)

### Coordinator

**Debra Christiansen-Stowe**  
(Institut nordique  
du Québec)



## WORKING GROUP ON SUSTAINABLE DEVELOPMENT

**Role:** Draw on the UN's sustainable development goals and validate those that are relevant for the North within INQ, develop appropriate indicators for the North as well as a sustainable development toolbox for northern research.

**Main Achievement:** Defined criteria to help evaluate the sustainability index of projects funded by INQ.

### Chair

**Murray Humphries**  
(McGill)

### Members

**André Potvin**  
(Université Laval)

**Thierry Rodon**  
(Université Laval)

**Jasmin Raymond**  
(INRS)

### Coordinator

**Debra Christiansen-Stowe**  
(Institut nordique  
du Québec)



## FIRST PEOPLES WORKING GROUP

**Role:** Define joint and specific research needs and priorities for Indigenous communities in the North, define a code for the responsible conduct of research in the North in keeping with the activities of the First Peoples, define Indigenous knowledge and establish its role within INQ.

**Main Achievement:** Organized and conducted a workshop on Indigenous knowledge.

### Chair

**Melissa Saganash**  
(Cree)

### Members

**Ellen Avard**  
(Inuit)

**Glenda Sandy**  
(Naskapi)

**Kakwiranoron Cook**  
(McGill University)

**Mark O'Connor**  
(Makivik)

**Michel J. Tremblay**  
(Université Laval)

**Najat Bhiry**  
(Université Laval)

**Serge Ashini Goupil**  
(Innu Nation)

### Coordinator

**Aude Therrien**  
(Institut nordique  
du Québec)

# Our Chairs in action

## NORTHERN SUSTAINABLE DEVELOPMENT RESEARCH CHAIR

### Chairholder

Thierry Rodon, Université Laval

### Mission

The Chair aims to improve the understanding of northern issues and to rethink development models with a view to informing decision making by federal and provincial governments, municipalities and Inuit organizations in terms of sustainable development.

### Summary

With the development of the Knowledge Network on Mining Encounters and Indigenous Sustainable Livelihoods (MinErAL), the Chair spearheaded over 12 comparative research projects on mining developments in Canada. In addition, it evaluated and enhanced the True North Treasure Initiative program when it was renewed by Indigenous Services Canada. The Chair also completed the fly-in/fly-out research project conducted with Regroupement des Femmes de la Côte-Nord. The Mining Economies, Mining Families project led to a number of publications on Indigenous entrepreneurship as part of mining developments in Nunavik and Nunatsiavut. An international summer school was also held in Fermont and Schefferville in May 2019. Over the past year, researchers from this Chair contributed to nine publications, 30 communications and the training of 27 students.



13 projects underway  
9 new publications  
22 partners



Mont-Wright Mining Complex



## **AN OVERVIEW OF THE RESEARCH CONDUCTED WITHIN THE CHAIR**

### **MinErAL Network**

PRINCIPAL INVESTIGATOR: Thierry Rodon, ULaval

CO-INVESTIGATORS: 24 co-investigators at 18 institutions

MinErAL research deals with encounters between Indigenous communities and mining companies in the Canadian North, Fennoscandia, Australia and New Caledonia. The network serves as a forum where Indigenous organizations, researchers and local governments can share knowledge so as to facilitate decision making. In 2018-2019, the members of the Chair conducted research in Nunavut, in the communities adjacent to the Mary River Mine. They also did work in Nunavik, in the communities of Aupaluk and Kuujuaq, where daily life is influenced by the presence of the Raglan and Nunavik Nickel mining companies. With its research, the Chair seeks to maximize the benefits and minimize the negative impacts of resource development. The members of the MinErAL network also carried out research in the three other regions in which the network works.

### **Evaluation of the True North Treasure Initiative program**

PRINCIPAL INVESTIGATOR: Thierry Rodon, ULaval

CO-INVESTIGATOR: Steeve Jacob, ULaval

Indigenous Services Canada tasked the Northern Sustainable Development Research Chair with evaluating the True North Treasure Initiative program and making recommendations to improve it. Over the past year, the Chair team conducted over twenty interviews with regional organizations and community and business representatives to discuss the program's objectives and spinoffs. The report, available on the Chair's website, makes several recommendations, the main one of which is to make the program accessible to more communities. Until now, the True North Treasure Initiative has been earmarked for communities located along the Labrador Trough. The True North Treasure Initiative program, which was renewed in the wake of this evaluation, strives to develop human capital and Indigenous entrepreneurship in the mining sector.

### **Cohabiting with Fly-in Fly-out commuting Experiences of women and communities on the North Shore**

PRINCIPAL INVESTIGATOR: Thierry Rodon, ULaval

CO-INVESTIGATOR: Francis Lévesque, UQAT

PARTNER: Regroupement des femmes de la Côte-Nord

This research project on fly-in/fly-out commuting, which sought to gain a clearer understanding of this practice on the women and communities of the North Shore, wrapped up in 2019. While the mass arrival of workers into a region offers the potential for plentiful business opportunities, the reality is not quite so rosy. This human influx has a social and economic impact, both for the host communities and the workers' home communities. In the wake of the release of their report, the Chair and Regroupement des femmes de la Côte-Nord received funding to produce a good practices guide for communities when large development projects are launched.

## NORTHERN GEOTHERMAL POTENTIAL RESEARCH CHAIR

### Chairholder

Jasmin Raymond, INRS

### Mission

The mission of the Northern Geothermal Potential Research Chair is to assess the performance of geothermal systems in cold climates and to adapt technologies to northern environments, so as to foster the emergence of green energy sources. Access to clean and affordable energy is critical for the development of communities and natural resources north of the 49th parallel.

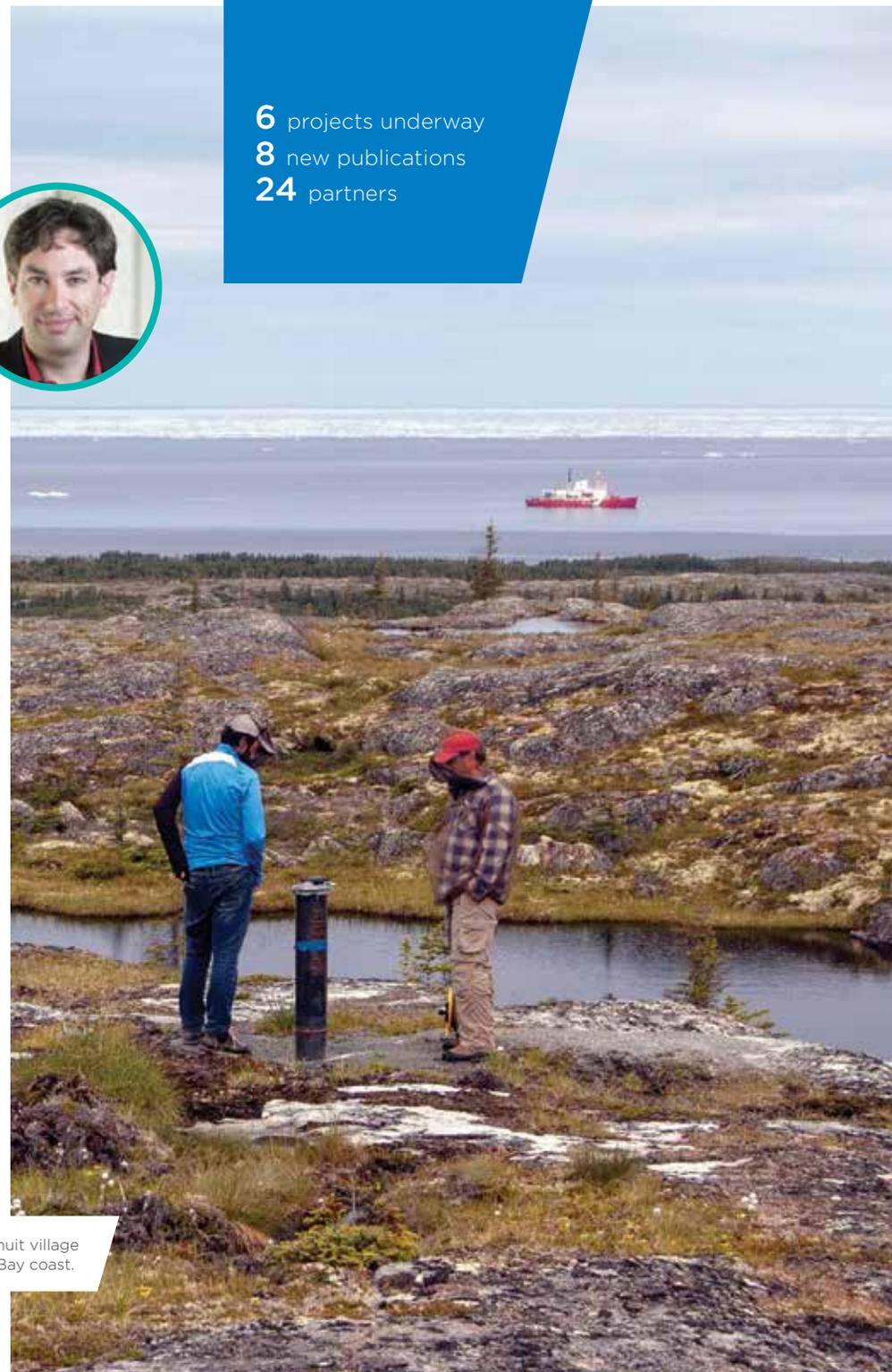
### Summary

The Chair researchers evaluated the heat generation potential of different geothermal technologies in the areas of Kuujuaq and Whapmagoostui-Kuujuarapik in Nunavik, the Éléonore Mine, Chibougamau and Chapais in the James Bay area; and on Anticosti Island. They concluded that geothermal heat pumps are the most profitable option among those studied.

The Chair helped implement a dual degree program in earth sciences and renewable energy with INRS and the University of Reykjavik. It also obtained an additional grant from the New Frontiers in Research Fund, which it managed to secure by joining forces with the Northern Sustainable Development Chair. This joint action by the two Chairs paved the way for greater understanding of the energy challenges—both technical and societal alike—faced by remote regions.



6 projects underway  
8 new publications  
24 partners



Inventory of water supply wells in the Cree and Inuit village of Whapmagoostui-Kuujuarapik, on the Hudson Bay coast.



## AN OVERVIEW OF THE RESEARCH CONDUCTED WITHIN THE CHAIR

### Potential of shallow and deep geothermal resources in remote regions of the North

PRINCIPAL INVESTIGATOR: Jasmin Raymond, INRS

CO-INVESTIGATORS: Chrystel Dezayes, BRGM; Didier Haillot, ÉTS; Juliet Newson, Université de Reykjavik; Páll Jensson, Université de Reykjavik

PARTNER: Community of Kujjuuaq

The goal of this project is to evaluate the use of three renewable energy technologies in the geothermal cluster—heat pumps, underground thermal energy storage and deep geothermal reservoirs—to heat buildings in the North. An analysis of the lifecycle of geothermal heat pump systems has shown that the use of this technology is more advantageous than the diesel furnaces currently used in Kujjuuaq, despite the fact that subsurface temperatures are only slightly above the freezing point. As for thermal energy storage, energy simulations based on local geological and meteorological conditions show that this technique could meet nearly 50% of the demand for heating. Lastly, the use of deep geothermal reservoirs could be envisaged in the mid term to supply future urban heating networks. In the wake of these findings, the researchers have emphasized the importance of developing local expertise so that these technologies can be put to good use.

### Overcoming obstacles to the sustainable energy development of the Arctic using thermal storage

PRINCIPAL INVESTIGATOR: Jasmin Raymond, INRS

CO-INVESTIGATORS: Louis Gosselin, ULaval; Christophe Krolík, ULaval; Thierry Rodon, ULaval

The North is the subject of clean technology initiatives, however their scope remains limited due to the intermittent nature of their sources (solar, wind). To enable widespread implementation of these technologies, the project seeks to solve the problem of long-term energy storage in cold climates. A number of maps detailing the underground thermal storage potential are currently under development and will serve as decision aids for urban development planning. The researchers also plan to develop a new, heat-injection technology using solar panels to carry out small-scale subsurface trials. The project includes a political and legal component that will result in a series of recommendations tailored to the social characteristics of Arctic and sub-Arctic regions, so as to enable the implementation of policies regarding energy innovations.

### Origin of hydrothermal fluids associated with Takhini Hot Springs, Yukon

PRINCIPAL INVESTIGATOR: Jasmin Raymond, INRS

CO-INVESTIGATOR: Tiffani Fraser (Yukon Geological Survey)

PARTNER: Yukon Geological Survey

Understanding the heat transfer and underground water flow mechanisms responsible for the formation of hot springs in the Western Cordillera is important for broadening the use of geothermal resources in the region. The goal of the project is to develop a conceptual model that demystifies the formation of the Takhini Hot Springs in Whitehorse, Yukon. To achieve this, the Chair's team will measure the hydraulic and thermal properties of rock samples taken in the area. Once the conceptual model is complete, the team will digitally simulate the upflow of hot fluids feeding the Takhini Hot Springs, where water levels at the surface are just over 45°C. The recent discovery of an underground reservoir could lead to it being used to heat nearby communities.

## MCGILL CHAIR IN NORTHERN RESEARCH - WILDLIFE CONSERVATION AND TRADITIONAL FOOD SECURITY

### Chairholder

Murray Humphries, McGill University

### Mission

INQ's McGill Chair in Northern Research - Wildlife Conservation and Traditional Food Security focuses on the protection and sustainable development of Northern Québec's natural resources. The research looks at how resource development and other forms of environmental change impact the abundance and health of northern wildlife populations and their contribution to traditional food security.

### Summary

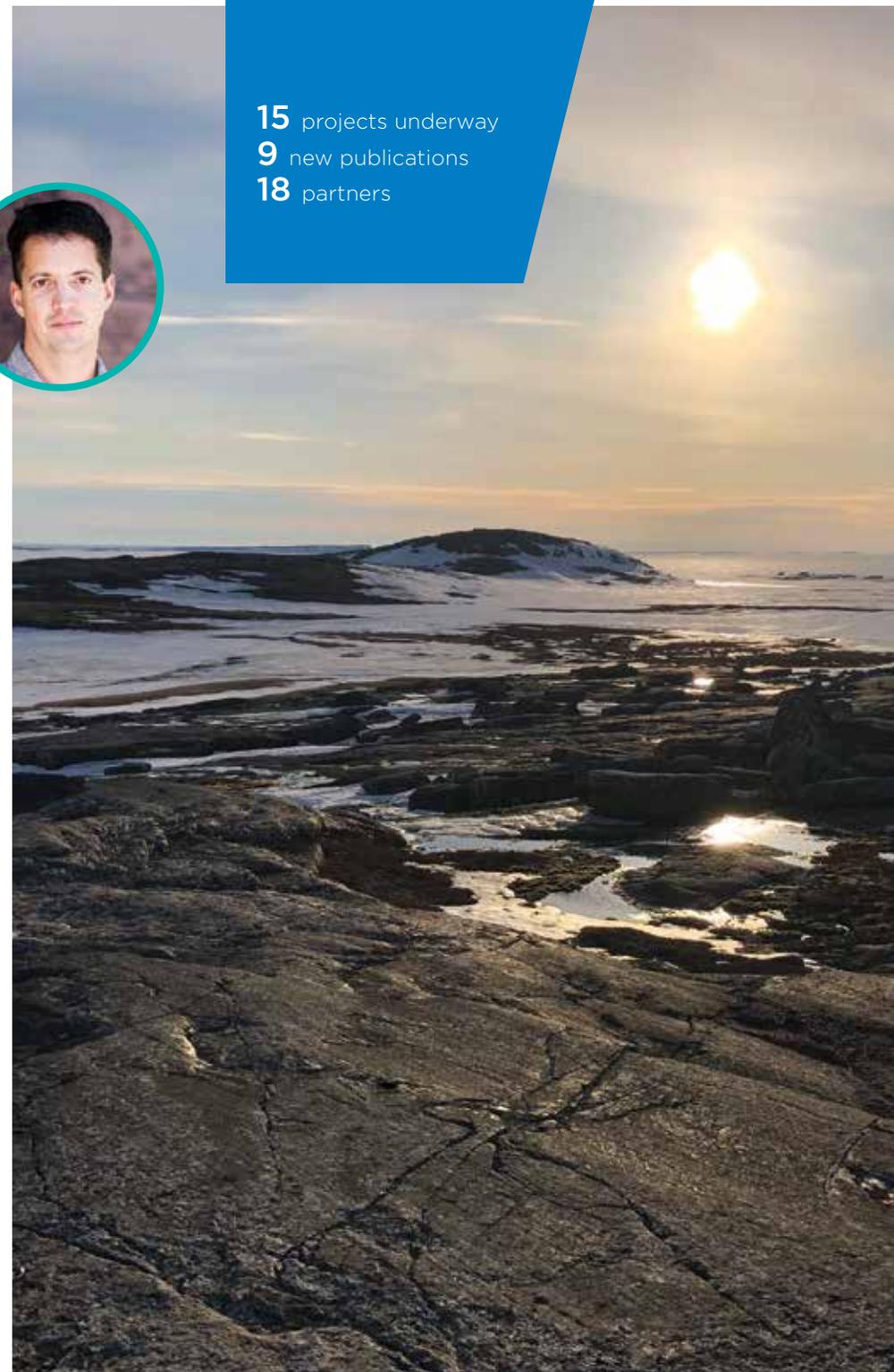
The Chair's research is focused notably on health, food security, the harvest and consumption of key wildlife species, wildlife management, governance, environmental protection and the sustainable development of Northern Québec. The researchers co-developed a multidisciplinary project examining the impacts of climate change on local Indigenous food systems in Northern Québec, including Eeyou Istchee and Nunavik.

The Chair's researchers shed light on the impacts of climate change on several key wildlife species. They also evaluated the management of lake sturgeon in Nemaska. In Whapmagoostui, the Chair's work highlighted the level of youth engagement in adapting to climate change. In Eeyou Istchee, the researchers conducted a strategic environmental assessment. Over the course of these projects, they analyzed the impact of climate change on secondary productivity and the sustainable yield of ecosystems.

A number of other studies examined the interactions between muskox and caribou in the Yukon and Northwest Territories and analyzed coastal habitats of waterfowl in New Brunswick and Eastern James Bay.



15 projects underway  
9 new publications  
18 partners





## **AN OVERVIEW OF THE RESEARCH CONDUCTED WITHIN THE CHAIR**

### **Wildlife, environmental changes and local Indigenous food systems (WECLIFS)**

PRINCIPAL INVESTIGATORS: Murray Humphries, McGill, Treena Delormier, McGill, Gordon Hickey, McGill

This new project will identify the observed and anticipated impacts of climate change on key wildlife species that make up the traditional food systems of the Cree of Eeyou Istchee and the Nunavik Inuit. In doing so, the Chair members seek to develop new knowledge related to the harvest and consumption of wildlife species with assessing the impacts of environmental changes on the abundance, distribution and health of these species. The researchers are also aiming to better identify the adaptation strategies of the local Indigenous food systems that depend on these species. A number of disciplines are represented in this ambitious socio-ecological project, namely, natural sciences, health sciences and nutrition, as well as social and political sciences.

### **Climate change, beaver expansion and stream connectivity for Arctic char in Nunavik**

PRINCIPAL INVESTIGATORS: Murray Humphries, McGill, Mikhaela Neelin, McGill

This project aims to document the expansion of the beaver population in Nunavik and its impact on the quality and connectivity of the habitat of Arctic char, a key component of the traditional diet and of the subsistence and tourism economy in Nunavik. In Fall 2018 and Winter 2019, a survey co-produced with the Makivik Corporation was conducted in 10 of the 14 communities in Nunavik on some sixty participants, most of them members of the Inuit communities. The objective was to document their observations and local perspectives on the connectivity of waterways and the impact of physical dams on the salmonid species. Helicopter flyovers were also conducted to document the beaver dams in the Tasiujaq region. In addition to helping advance knowledge about this issue, the researchers plan to play a role in advancing viable solutions for beaver management in the North.

### **Muskox resource selection and interactions with caribou in Yukon North Slope**

PRINCIPAL INVESTIGATORS: Murray Humphries, McGill, Laurence Carter, McGill

This project was co-developed and is being conducted in collaboration with local, regional and territorial actors concerned by the impact of muskox (a species reintroduced in the region) on caribou, which is an important species for traditional food security. The researchers are seeking to document the muskox's habitat use and diet, as well as its impact on vegetation, and to compare it against the data available for caribou. During the summers of 2018 and 2019, a team was deployed between the town of Inuvik, a community in the Northwest Territories, and Ivvavik National Park in the Yukon, to characterize the vegetation and take muskox feces samples to assess the animals' diet. The analysis of these results will provide new knowledge on the impacts of the presence of muskox on land occupied by the caribou. This knowledge could then be taken into consideration in efforts to co-manage these two species on a given territory.

## INQ training

INQ offers an ever-growing range of training opportunities targeting diverse audiences. Training has been at the very core of INQ's activities since its founding. The following are two telling success stories that bear witness to INQ's commitment to train researchers and engaged citizens in the realities of Northern Québec and the Arctic:

### AN INTRODUCTION TO NORTHERN RESEARCH AND ISSUES

An initiative of the Working Group on Training, the very first INQ Summer School was held May 6 to 10, 2019. Developed by northern experts, the five-day summer school helped equip young researchers to prepare and carry out their field work in the North. A multidisciplinary team of 22 university researchers and 11 mentors from northern organizations set out to offer a training program that they themselves would have liked to have experienced in the early days of their careers. The 33 participants, from nine educational institutions and two external organizations, had varied backgrounds in natural sciences, health sciences, social sciences, languages and media arts. The content of the summer school lectures and discussions touched on the changing natural environment, history, governance and political issues of the North, as well as Indigenous culture and contemporary social issues, collaborative and participative research and the coordination and management of northern research projects.



Workshop on collaborative research at the Kondiaronk Community Hall in Wendake

## MOOC “NORTHERN QUEBEC: ISSUES, SPACES AND CULTURES”

### Responsible Professor

Thierry Rodon, ULaval

Through a hundred or so filmed interviews, the massive open online course (MOOC) gives a voice to specialists and people involved in northern issues. Thanks to its broad diversity of credible and engaged stakeholders, the MOOC aims to foster a greater understanding of the cultures of northern populations, the place this territory occupies in the collective imagination, the different visions for its development and its sociopolitical development over time.

### The MOOC at a glance:

- Launched in **2017**
- Available in **2** languages: English and French
- More than **6,500** participants enrolled since its launch
- **1,583** people enrolled in 2018-2019
- **100** filmed interviews
- **47** stakeholders
- **15** university stakeholders representing **6** university institutions
- **22** Indigenous stakeholders representing **4** nations
- **10** non-Indigenous representatives



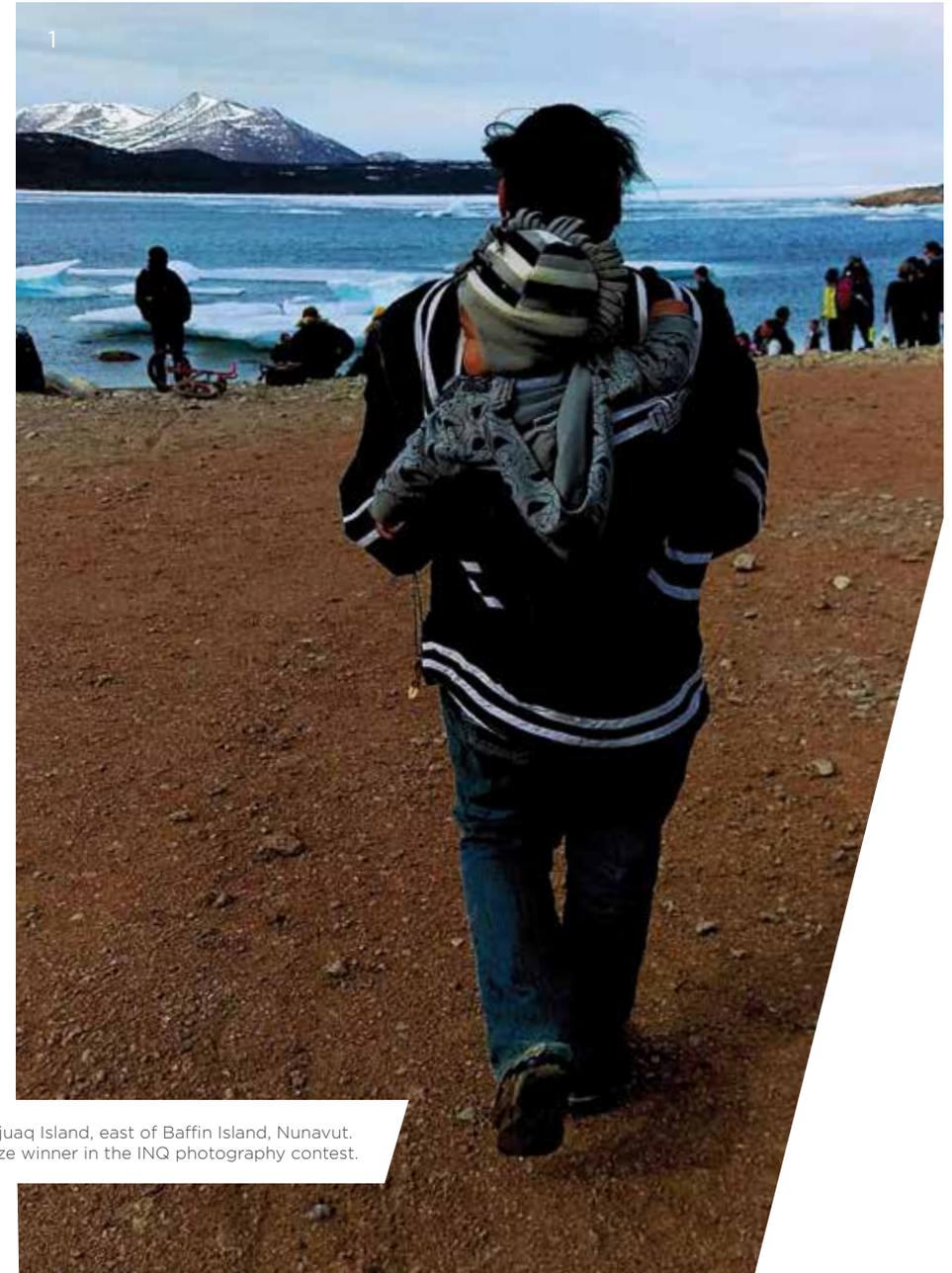
# Highlights

These activities are some of the important milestones reached over the year: New partnerships, networking among the three INQ chairs, rallying projects and decisive reflections: Read all about these key events in which INQ was involved this year.

1

## 3<sup>rd</sup> EDITION OF SCIENCE DAY November 28, 2018

The event attracted nearly 100 students, researchers and partners from INQ's three research Chairs, including 14 speakers for the day on *Mapping and Modelling of Northern Issues and Participatory Research*. At a side event, student Joanie St-Onge's photo took home first prize among the twenty or so entries submitted by participating young researchers. Her widely acclaimed photo depicted a woman carrying her baby on her back in an amauti, a traditional women's parka. In the scientific poster competition, Arianne B. St-Amour won for her master's project *Permafrost characterization using ground penetrating radar for territorial development, Inukjuak, Nunavik*.



Qikiqtarjuaq Island, east of Baffin Island, Nunavut.  
First prize winner in the INQ photography contest.

2

## STRATEGIC PLANNING

December 4, 2018

Since its creation in 2014, INQ has numerous achievements to its credit and has rallied northern researchers and forged valuable ties with post secondary institutions, northern communities—including Indigenous nations residing in the North—and public- and private-sector organizations. In order to build on this momentum and fulfil its mission to ensure the sustainable development of the North, INQ convened the members of its implementation committee for a day of brainstorming in December 2018. Together, they defined six priority themes: networking and partnership, research and training, knowledge mobilization, technology transfer and innovation, infrastructure, communication and outreach and governance and funding. They subsequently met to reflect on the Institut’s 2019-2024 strategic planning, which is slated for release in late 2019.

3

## INDIGENOUS KNOWLEDGE WORKSHOP

April 2-3, 2018

Funded by the Plan Nord Initiative Fund, the Cree Nation Government and INQ, the Indigenous Knowledge Workshop brought together researchers and members of the Indigenous communities of Northern Québec to reflect on the conditions and tools needed to improve the transfer of knowledge and experience. The workshop, which was organized by the First Peoples Working Group, spurred an exchange of ideas on the conditions and tools that need to be developed to reach this common knowledge-sharing goal. The event was held in the Cree community of Oujé-Bougoumou and attracted some thirty representatives from the four nations in Northern Québec, as well as researchers from several INQ-member institutions.



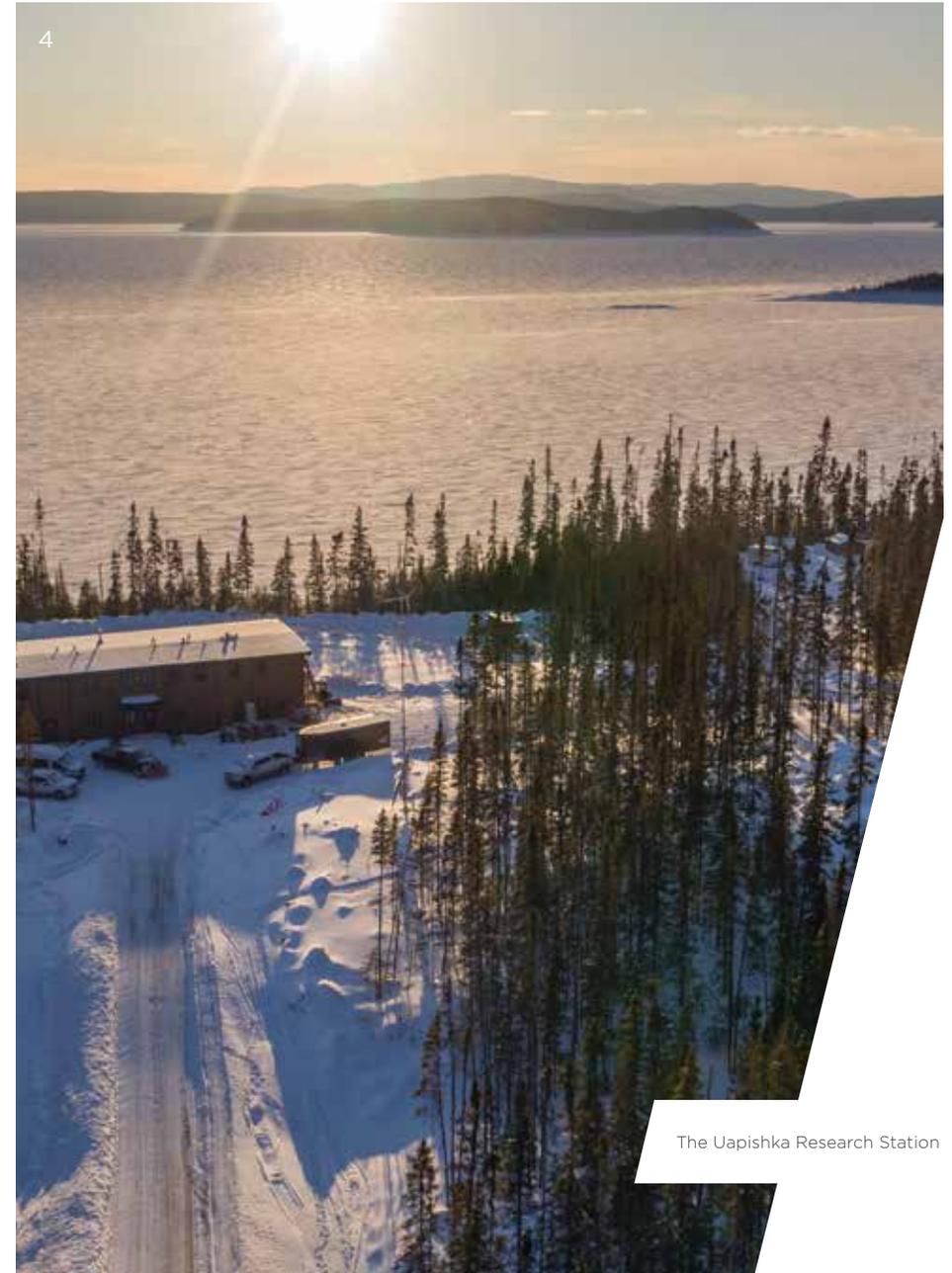
# 4

## TRIPARTITE STRATEGIC ALLIANCE

April 16, 2019

INQ, UQAR and the Uapishka Research Station signed a partnership agreement in Winter 2018-2019. The agreement expands the network of northern research stations and research projects in the northeastern section of Québec's boreal forest. The Uapishka Research Station is located in the foothills of the Groulx mountain range near the Manicouagan Reservoir, at the heart of the Pessamit Nitassinan. The alliance will foster skills development and socio-professional integration among Indigenous peoples, especially youth, as well as accessibility, exploratory activities and the dynamic and contemporary occupation of the Nitassinan.

Created by the Pessamit Innu Council and the Manicouagan-Uapishka World Biosphere Reserve, this infrastructure is the only active research station devoted to northern studies on the North Shore. The inauguration of the Uapishka Research Station was applauded by dozens of international and Québec research institutes, including UNESCO. The station is already a stellar regional example of co-management with the Innu and a hub for the advancement of science and Indigenous identity. Its scientific and accommodation facilities make it an ideal site for conducting research on this relatively unexplored northern territory.



The Uapishka Research Station

5

## JOINT CALL FOR PROJECTS

April 18, 2019

In April, Institut nordique du Québec and Sentinel North joined forces to launch a call for projects to INQ members to enhance Québec's knowledge about the North and the Arctic with a view to sustainable development in Northern Québec. INQ and SN proposed an innovative approach based on intersectoral and interdisciplinary research that includes social, health and natural sciences as well as engineering. This joint call for projects encouraged the development of inter-institutional projects as a means of fostering synergy and collaboration. Proposals that were submitted also explained how they would address the needs and aspirations of the Indigenous nations in terms of research.

6

## CENTRE DÉCLIC

June 1-2, 2019

Two INQ-affiliated researchers gave lectures for the general public during the Ecosphere environmental fair at the initiative of Centre d'excellence sur le Dialogue entre les scientifiques et le public (Centre Déclic). Déclic promotes the sharing of scientific knowledge with a view to helping individuals and society as a whole make more informed decisions. INQ and Centre Déclic officially began their partnership this year and will work to develop new talks and lectures as they pursue their shared goal of transferring knowledge, in layperson's terms, to the general public.



## Meetings and outreach

Over the years, the following gatherings have become central to INQ's event programming. These events help forge lasting ties both with up-and-coming scientists and with actors from Québec and around the world who are committed to the sustainable development of the North.

1

### ARCTIC CIRCLE ASSEMBLY

October 19 to 21

An INQ delegation took part in the Arctic Circle Assembly in Iceland. Louis Fortier, Director of Science and Innovation; Jean-Éric Tremblay, Acting Chair of the Implementation Committee; and Brigitte Bigué, INQ Director, attended this international gathering. The delegation was also accompanied by the six doctoral students who won the Québec final of the Mon projet nordique / My Northern Project competition: Charles-Olivier Simard, PhD candidate in demographics, Université de Montréal; Mafalda Miranda, PhD candidate in earth sciences, INRS; Marianne Falardeau, PhD candidate in natural resources science, McGill University; Myriam Labbé, PhD candidate in microbiology, Université Laval; Pierrick Lamontagne-Hallé, PhD candidate in earth sciences, McGill University; and Samuel Gagnon, PhD candidate in geographic sciences, Université Laval.

In addition to the Mon projet nordique / My Northern Project competition, INQ, Société du Plan Nord and Québec's Ministère des Relations internationales and de la Francophonie co-organized a session entitled *Preserving the Biodiversity - Exploring New Conservation Planning Models*. The 75 or so attendees actively collaborated in the session's participative format. Louis Fortier, INQ's Director of Science and Innovation, gave a talk at the session on the state of science in terms of global biodiversity.

Another highlight of the international gathering: Canada's ambassador to Iceland, Anne-Tamara Lorre, showed a keen interest in northern research when she met with our students. The ambassador subsequently referred them to people in Iceland likely to have an interest in their work.



2

### 3<sup>rd</sup> MCGILL NORTHERN RESEARCH DAY January 23, 2019

McGill North's third Northern Research Day attracted 90 people and featured 10 speakers who presented their work. Founded in 2016, McGill North is an initiative of the McGill Chair in Northern Research in Wildlife Conservation and Traditional Food Security, which is funded by INQ.



3

### MON PROJET NORDIQUE / MY NORTHERN PROJECT May 23, 2019

Six of the 15 participants in the competition won over the judging panel at this INQ flagship event in which doctoral students have five minutes to present their northern research project in as dynamic and accessible a manner as possible. These talented communicators will represent Québec at the international final of the competition to be held at the Arctic Circle Assembly in Reykjavik, in October 2019. Mon projet nordique / My Northern Project is organized by INQ and FRQNT and is part of an international partnership with UArctic.



# 2018-2019 INQ committees

## INQ IMPLEMENTATION COMMITTEE

### Research Centres

1. **Gilles Gauthier**  
Scientific Director  
Centre d'études nordiques (CEN)  
Université Laval
2. **Jean-Éric Tremblay**  
Scientific Director  
Québec-Océan  
Université Laval
3. **Marcel Babin**  
Scientific Director  
Takuvik  
Université Laval
4. **Thierry Rodon**  
Scientific Director  
CIÉRA  
Université Laval
5. **Pierre Ayotte**  
Scientific Director  
Nasivvik  
Université Laval
6. **Martin Fortier**  
Executive Director  
Sentinel North  
Université Laval
7. **André Potvin**  
Director  
Institut EDS  
Université Laval
8. **René Therrien**  
Vice Dean of Research  
Faculty of Science and Engineering  
Université Laval
9. **Murray Humphries**  
Director, CINE  
(Centre for Indigenous Peoples'  
Nutrition and Environment)  
McGill University
10. **Paul Brassard**  
Northern Representative  
Réseau universitaire intégré  
en santé (RUIS)  
McGill University
11. **Louis Fortier**  
Science and Innovation Director  
INQ;  
Scientific Director  
ArcticNet, CGSS *Amundsen*,  
Takuvik  
Université Laval

12. **Jasmin Raymond**  
INQ-INRS Chairholder  
Institut national de recherche  
scientifique (INRS)

### Founding Universities

13. **Michel J. Tremblay**  
Vice Rector of Research,  
Creation and Innovation  
Université Laval
14. **Kristina Ohrvall**  
Director, Strategic Initiatives  
McGill University
15. **Jean-François Blais**  
Centre Eau, Terre, Environnement  
INRS

### UQ Network Universities

16. **François Deschênes**  
Vice Rector of Research  
Université du Québec à Rimouski

### Other Universities

17. **Marie-Josée Hébert**  
Vice Rector of Research  
Université de Montréal

### Indigenous Nations

18. **Ellen Avard**  
Scientific Director  
Makivik Corporation -  
Nunavik Research Centre
19. **Melissa Saganash**  
Director of Cree-Québec Relations  
Embassy of the Cree Nation
20. **Serge Ashini Goupil**  
Strategic Advisor  
Innu Nation
21. **Glenda Sandy**  
Delegate  
Naskapi Nation of Kawawachikamach

### Private Sector

22. **Gaétan Lantagne**  
President and CEO  
Institut de recherche d'Hydro-Québec  
(IREQ)
23. **Francis Fournier**  
President and CEO  
COREM

### Centres collégiaux de transfert de technologie (CCTT)

24. **Hussein Ibrahim**  
Scientific Coordinator  
Institut technologique  
de maintenance industrielle  
Cégep de Sept-Îles

### Société du Plan Nord

25. **Alexandre Baillargeon**  
Director of Interdepartmental Relations  
Société du Plan Nord

### Senior Advisors on the North

26. **Michel Allard**  
Professor  
Centre d'études nordiques (CEN)  
Université Laval
27. **Richard Fortier**  
Administrative Director  
Centre d'études nordiques (CEN)  
Université Laval

### Director

28. **Brigitte Bigué**  
Director, Institut nordique du Québec  
Office of the Vice Rector of Research,  
Creation and Innovation  
Université Laval

## EXECUTIVE COMMITTEE

### Eugénie Brouillet

Vice Rector of Research, Creation and Innovation  
Université Laval

### Sébastien Charles

Vice Rector, Research and Development  
Université du Québec à Trois-Rivières

### François Deschênes

Vice Rector of Education and Research  
Université du Québec à Rimouski

### René Dufresne

President and CEO  
Société du Plan Nord

### Louis Fortier

Science and Innovation Director  
INQ;  
Scientific Director  
ArcticNet, CGSS *Amundsen*,  
Takuvik  
Université Laval

### Jean-Pierre Perreault

Vice-Rector, Research and Graduate Studies  
Université de Sherbrooke

### Stéphane Roche

Director of Research and Academic Affairs  
Institut national de recherche scientifique (INRS)

### Nancy Ross

Associate Vice-Principal (Research and Innovation)  
McGill University

### Jean-Éric Tremblay

Acting Chair, Implementation Committee  
Scientific Director  
Québec-Océan  
Université Laval  
(non-voting member)

### Brigitte Bigué

Director  
Institut nordique du Québec  
(non-voting member)



## A dedicated team bringing together northern expertise

Left to right:

1. **Alexandra Gélinas**, Graduate Research Assistant, Graduate Studies
2. **Gabrielle Lévêque-Huot**, Secretary
3. **Sylvain Tougas**, Web Developer
4. **Brigitte Bigué**, Director
5. **Debra Christiansen-Stowe**, Operations Coordinator
6. **Aude Therrien**, Research Professional
7. **Andréanne Bernatchez**, Communications Officer
8. **Julie Dionne**, Administrative Technician (absent)

Samuel Auger, Sophie Capéraà and Claudine Trudel from Université Laval's Communications Department also contributed to the production of this report.



## Photos

- Andréanne Beardsell / UQAR: pages 3, 16, 37 and 39
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This publication was produced by Institut nordique du Québec.  
October 2019 / Printed in Canada

Financial Partner



**Institut nordique du Québec**

Office of the Vice Rector of Research, Creation, and Innovation, Pavillon Alexandre-Vachon, Room 2078  
1045, avenue de la Médecine, Université Laval, Quebec City, Quebec G1V 0A6

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