

#### The Peoples' Arctic

Balance, diversity, local communities and sustainability lie at the core of development in the Arctic.

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By Lars Kullerud, President, UArctic



he North's future is hard to predict, but it will certainly be very different from its past. This year's Shared Voices magazine asks 'Whose Arctic?' – who has the right to speak for the region, who will benefit from its resources and development, and whose voices will determine this future.

In these times when it seems that everybody is organizing their own Arctic conferences and expert reports, it is important to remember that the North is a homeland to millions of people who wish a future for themselves and their children. It is promising to see new generations of young leaders, new solutions to governance, new forms of jobs, and innovative developments that respect and build on older cultures and traditions. These developments create

new ways of expressing culture and pride in one's own lands, and create jobs and futures for the North in a globalized world.

There is also a deep concern that the North will continue to face outmigration. The region's well-educated youth face perceptions that key decisions are made outside the region, and that one cannot take part in the modern world from the northern periphery. Concepts like 'critical mass' cluster theory and the centralization of creative power in organizations tend to move innovation and leadership to southern centres. The North continues to be perceived as the resource-rich backyard of wealthy countries, where we shall mine, pump, log, fish, or have exciting recreation in pristine nature. Modern technology that could help the North develop also contributes to this trend, as more and more activities can be operated or managed from a distance.

Adaptation to globalization may prove to be an even larger challenge to the North than adaptation to climate change. We need to ensure that the North, in addition to being a resource pool, can also find ways to utilize its comparative advantages and become a place where northerners can be leaders in innovation. Northerners can take the lead in building a distributed cluster of innovation around the Circumpolar North, run global companies, and be the centres for design that provide the solutions to global and northern challenges. It is indeed time to create a 'climate for change'!

This perspective is one of the drivers behind the University of the Arctic's

(UArctic) new Strategic Plan where our members continue collaboration to "empower the people of the Circumpolar North by providing unique educational and research opportunities through collaboration within a powerful network of members." We firmly believe that education and research matter. We will need creativity and new ideas also in our universities and colleges. Education and research for the future of the North cannot be a copy of the past, just like it shall not only be a copy of southern approaches. We need to become better in building northern competences that have sufficient trust in the North, to build a northern future that is different and innovative, to utilize the strengths of our ancestors' culture and knowledge, and accept that distance and small communities can be assets.

# By Sara Olsvig Inuit Ataqatigiit (IA), Member of the Danish Parliament, Chair of the Standing Committee of Parliamentarians of the Arctic Region PEOPLES ARCTIC



he impact on small Arctic societies when new industry opens up is dramatic. This situation is likely to be a reality for many places around the Arctic. The social benefits and costs are potentially huge in many of the development projects in the Arctic, especially related to exploitation of natural resources.

Local communities must gain from the new activity. Developing natural resources includes additional risks to the local environment and to the societies. For local people to accept this risk as worthwhile, they need to see clear benefits from the activity. Furthermore, decisions on whether to develop resource extraction projects or not in local areas of the Arctic must lie in the hands of the people involved.

We must make sure that the resources are not just shipped away without any gain for the people living in the Arctic. We also have make sure that when the resources are exhausted, the company must be responsible for leaving the land in best possible shape for future generations who are still going to have the area as their home. Environmental protection, and open, democratic and transparent processes must be core to any development in the Arctic.

It is a challenge to build balanced economies in the Arctic, and other businesses than non-renewable resource development must be enhanced. The Arctic has great potential, for example in relation to eco-tourism and experience economy. We must be innovative in searching for new business areas to develop, and build capacity locally to make sure that economies are locally anchored, diversified and solid.

Arctic parliamentary cooperation has done many things to address this development, and we will continue to do so at the 11th Conference of Parliamentarians of the Arctic Region in Whitehorse, September 9-11, 2014. One of the main agenda items for the conference is how we can improve capacity building in the Arctic to make sure that the people living in the Arctic are better prepared to take actively part in the development happening in their homelands. This relates to development of the rich natural resources in the Arctic, but also to how we can use this momentum to stimulate innovation and develop businesses that do not depend on non-renewable resources. I believe the work of UArctic can be an important contributor in this process, through student exchange and building thematic networks.

Another main topic at the Whitehorse conference is Arctic governance. We will look into the existing governance models and decision-making processes in the Arctic and discuss how they can be developed. Finding the right level of governance that fully involves the people is important to be able to address the correct topics. The international cooperation through the Arctic Council, which includes indigenous peoples as "permanent participants" and builds on world class scientific assessments. has been a success. The legal agreements negotiated under the auspices of the Arctic Council are an important new instrument for closer and more binding cooperation. Taking into account the changing Arctic environment, more human activities, and the increased interest in the Arctic from the broader international community, we will discuss what should be the next steps in the international Arctic cooperation and decision making.

#### **LEANNA ELLSWORTH**

The Canadian Arctic is my home and always will be. I grew up in a small Inuit community with 1,700 people, called Pangnirtung, located on Baffin Island, and later in Iqaluit, both located just below the Arctic Circle in the Territory of Nunavut.

My UArctic experience first started in Iqaluit when I was taking the Environmental Technology Program at Nunavut Arctic College. I came across a posting about the north2north exchange program and decided to apply to the Arctic Studies Program at the University of Lapland in Rovaniemi, Finland. Once I was accepted, the realization hit me: I was leaving home, my family, for the first time and to a different country!

Initially, I was nervous about living in another country, but once I arrived, Rovaniemi wasn't as big as I thought. Apart from the language barriers at times, I was in the Arctic, and it felt a bit like home. It had the same periods of light and darkness, snow, northern lights, and reindeer. I also had two great roommates and met fellow Canadians that made my stay easier when dealing with homesickness. My most memorable part of the exchange was travelling to the Kola Peninsula in Russia, where we saw the effects of resource development on the landscape, peoples and towns, and meeting Saami people from the Lovozero area. In Rovaniemi, I also learned more about the Bachelor of Circumpolar Studies (BCS) Program and decided that it was important to take advantage of this opportunity once I returned to Nunavut.

In 2010, I was the first Inuk from Nunavut to graduate from the BCS Program. The program enhanced my skills and prepared me for other international opportunities such as working with the Government of Nunavut, and for the Inuit Circumpolar Council (ICC) Canada, an international indigenous peoples' organization representing the rights of Inuit from the four countries in Alaska, Canada, Greenland, and Russian Inuit in Chukotka. ICC is one of the Permanent Participants to the eight-nation Arctic Council, and an official Observer to the United Nations Economic and Social Council (ECOSOC). I have worked on advancing awareness of the important link between health and climate change issues in the Arctic by representing ICC at the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Permanent Forum on Indigenous Issues (UNPFII), the Arctic Council, and at other international fora. These experiences would not have been possible without the opportunities from UArctic and my desire to improve the lives of Inuit.

Although there are great programs in the North, students usually have to travel to the next largest town in their region that offers more options. and access to higher education usually means leaving home for extended periods of time. This can be a challenge for students with families or people who are the main wage earners. Looking for future opportunities, skills enhancement or simply a career change often means leaving your community. Having the BCS program available online was a huge bonus for me; this method allowed me to stay in Nunavut with my family and job. It wasn't always easy, but it was worth it. I met a lot of interesting people online, and learned a lot about the other Arctic regions and the common challenges of remoteness, access to services, threats to culture, language, food security, and environmental change. With more and more students learning about the Arctic from different areas, the greater chance of people spreading the knowledge and the ability to influence discussions and policy will help shape the changing Arctic and improve the future of Inuit, and other Arctic indigenous peoples.

I hope this story inspires more students to take the BCS Program, and for extra motivation, I would like to reference a quote from Robert Joseph who stated that 'The quality of life for many, may depend on you. Go and make a difference, the whole world waits for you.' What are you waiting for?

# The Arctic as the Focal Point of Educational Politics

By Marina Kalinina

UArctic Vice-President Interregional Cooperation, Vice President International Relations, Northern (Arctic) Federal University (NArFU)

rctic research is an actively developing area. As interest in the Arctic region increases due to rapidly growing development, the need for specialists capable of solving problems in different fields of knowledge likewise increases. This need is one of the factors shaping the demand for higher education in the North.

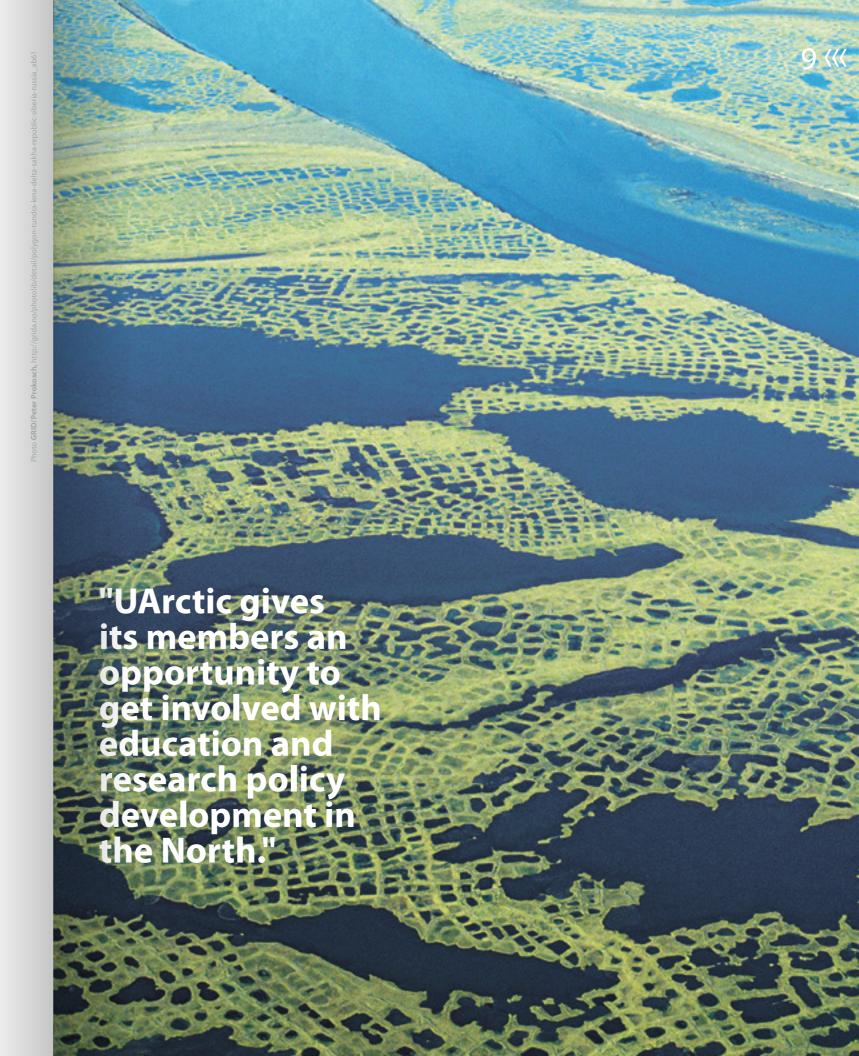
Russian universities tend to benefit more from international cooperation. The further internationalization of education is one of the political priorities of the Russian government and the Ministry of Education and Science of the Russian Federation. Criteria related to international activities are used to assess the effectiveness of Russian higher education institutions. The role of academic exchanges, joint research projects and joint educational programs has increased significantly in recent years. This internationalization strategy aims to improve the quality of human capital, develop modern research infrastructure, and attract teachers and researchers to work in Russian universities.

Responsibility for these issues belongs to the current 47 Russian members of UArctic. This fact gives reason to assume that international cooperation in the Arctic region is defined as a priority by the leaders of Russian member institutions, and that the resources available through this network are used by Russian universities for institutional capacity building of students and faculty.

The opportunities that UArctic affords to its members might be considered on three levels. First, UArctic presents a platform for cooperation between international partners at the administrative level: it gives access to interaction with academic institutions and organizations, public authorities, business partners and non-profit organizations of the Arctic and non-Arctic states. One example is the UArctic Rectors' Forum, where important issues are discussed and agreed upon at the highest administrative level. In addition, UArctic gives its members an opportunity to get involved with education and research policy development in the North through joint activities and projects with IASC, IASSA and the Arctic Council working groups.

Second, UArctic is a platform for establishing strong research and academic relations, particularly through cooperation within the Thematic Networks. Thematic Networks present Russian members with a great potential for developing joint projects and educational programs. The UArctic Research Office, hosted by NArFU, is designed to play a bridging role between Russian and Western scientists in the Arctic and to promote collaborative interdisciplinary research in the North.

Third, UArctic is a tool for students' involvement in international cooperation through various educational programs (Circumpolar Studies and graduate programs), mobility programs (north2north), educational projects (the Model Arctic Council) and forums (Students' Forum). All three levels give an excellent perspective for further development of cooperation between Russian UArctic members and their partners abroad.



# THE NORDIC VOICE IN THE ARCTIC

Swedish Karin Åström (S) is the elected president of the Nordic Council and a member of the Swedish parliament, Riksdagen, where she is also chair for the Swedish delegation of the Nordic Council.

By **Nicolai Stampe Qvistgaard** Journalist/Political Advisor, Social Democrats, Nordic Council

he Arctic is confronting enormous challenges and hardships, and it also remains on the threshold of a new era of possibilities.

The ice is melting faster than ever. This fact has already affected and in the future will have major consequences for the population, plants and animal life. Just take a look at Greenland where the vanishing ice is forcing polar bears into densely populated areas where they forage for food and often end up losing their lives because they also are a great danger to humans.

As the ice disappears, the hunters' opportunities to find food also disappears in the areas that have been their hunting grounds for many generations. Both humans and animals are forced to adapt to the unfortunate consequences of global warming. At the other end of the scale, some may point to the opportunities of global warming, such as new transportation routes for shipping, that also may increase tourism and business.

The paradox is that while the Arctic in recent years is affected by global warming more than any other region, the Arctic is also becoming the centre of the worlds attention when it comes to energy resources

and raw materials. Again, just look at the attention Greenland is receiving from the international big business industry. Many would like to get their hands on the treasures hiding in the Arctic underground.

"We must keep an eye on climate change and hope that its impacts will be as minimal as possible. We in the Nordic countries must take the lead and aim for a climate neutral society. Furthermore, it is important to ensure that those areas that open up as the ice melts are protected as far as possible from malicious activities such as destructive oil drilling," says Karin Åström.

"As the Northeast Passage opens up the vessels transport increase. It is very important that we have safe ships and are well prepared for any accidents. It is also vital that the people now living in the Arctic can continue to live there even with the climate changes. We must create the conditions for a vibrant Arctic where we can maintain and develop the unique way of life that the people of the region have."

It is of great importance that the Arctic countries reach agreements that govern how the Arctic will respond to the world's attention in the future. This applies to how we use our natural resources, how the residents of the Arctic should be respected,

and how we can protect the Arctic from increased exploitation.

"Interest in the Arctic is increasing and I am sure that it will continue to increase. Right now, relatively favorable winds are blowing and my impression is that there is an increased interest on the climate issue. Unfortunately, so too does interest in the extractraction of oil and gas that now becomes more readily accessible. I think all countries in the Arctic will see the value in the unique environment and increase their resources to try to protect and carefully develop the region. It is of great importance that we also secure fishing in the Arctic so that those who live in this region can continue to work in this industry."

"Nordic cooperation is also needed in an Arctic context. We have a good tradition of cooperation in most areas, regardless of political orientation. Hopefully, this approach is something we can take with us into Arctic cooperation. For the Nordic Council, it is good that we are talking with a common and clear voice. The members of the Nordic Council have in many areas a common understanding of the Arctic, although I would prefer that the issue of extraction of natural resources associated with climate change be given a higher priority."



"We in the Nordic countries must take the lead and aim for a climate neutral society."

- Karin Åström -

## Arctic Research Goals and Objectives from the United States

By John Farrell, Executive Director, US Arctic Research Commission

1

#### OBSERVE, UNDERSTAND, AND RESPOND TO ENVIRONMENTAL CHANGE IN THE ARCTIC

As the Arctic climate continues to warm at twice the global rate, climate system "wild cards" requiring greater attention include: (1) rapidly thawing permafrost and the possible release of staggering amounts of carbon into the atmosphere, (2) the sharp decline of Arctic glacial and sea ice (75% reduction from 20 years ago), and (3) the climatic impact of black carbon (soot).

#### Recommendations

- Intensify efforts to observe and understand climate change and its impacts on ecosystems, infrastructure, economies, and
- Synthesize research results and translate them into actionable information.
- Efforts by the US Study of Environmental Arctic Change (SEARCH) program and through the US Interagency Arctic Research Program Plan's fiveyear plan are steps in the right direction.
- Move from knowledge to action, as successfully demonstrated by the Canadian ArcticNet program

2

#### IMPROVE ARCTIC HUMAN HEALTH

Significant health disparities exist between Arctic and non-Arctic residents. Decreasing rates of infant mortality, fetal alcohol syndrome, chronic respiratory disease, and accidental injury are offset by increasing rates of substance abuse, domestic violence, obesity, diabetes, cancer, and suicide. Adequate infrastructure for water and sanitation is critical; there is a clear connection between health and access to clean water for hand washing. Subsistence foods and affiliated social systems are critically important to the health and wellbeing of indigenous peoples.

#### Dozommondation

- Enhance biomedical and psychiatric research in mental and behavioral health, and, on a decadal basis, review and evaluate intervention efforts to update research priorities and guide the scaling of successful local efforts into broader clinical interventions and public health strategies.
- Expand the use of telemedicine to diagnose and treat diseases in remote Arctic regions.
- Make mandatory the collection of water service "status" data at all federally funded medical facilities.
- Address food security issues.

The US Arctic Research Commission (USARC), an independent federal agency, recommends national Arctic research policy to the President and Congress and builds cooperative links in Arctic research within the government, with the State of Alaska, and with international partners. The USARC recommends research on the **following five goals.** 

3

#### UNDERSTAND NATURAL RESOURCES

Arctic economies are based on natural resources. The region produces about one-tenth of the world's oil, and a quarter of its natural gas, and assessments suggest there are considerable undiscovered reserves of both. Abundant deposits of metals and minerals are also being discovered and developed. Renewable resources, such as fish, birds, and mammals (marine and terrestrial) and energy (wind, geothermal, hydro, and ocean) provide benefits and future opportunities.

#### Recommendations

- Support greater mapping of Arctic lands and charting of waters. The United States must quantitatively assess mineral, energy, and living resources and learn more about the environmental, societal, and economic impacts of developing them.
- Prepare thoroughly for responding to oil spills. Challenging response conditions and unique characteristics of Arctic environments require specialized research.
- Develop international standards for Arctic exploration and oil and gas development, and share innovative technology and best management practices for Arctic regions.

4

#### ADVANCE CIVIL INFRASTRUCTURE RESEARCH

Thawing permafrost, reduced sea ice extent, strengthening storms, and eroding coastlines resulting from Arctic climate change are affecting civil infrastructure, such as transportation, communication, and energy delivery. The number of ships moving goods through Arctic waterways is increasing in frequency and duration as global demand for resources rises.

#### Recommendations

- Maximize the design life of infrastructure – particularly of water and sanitation systems

   as funding declines for construction and for operation and management.
- Develop Arctic-specific technology, design, and engineering for rapidly changing environments.
- Increase applied research to improve land, air, and sea infrastructure that supports community essentials (energy, utility, communication, and transportation). Immediate needs include collecting baseline data and mapping of coastal and nearshore environments, collecting terrestrial imagery and elevation data, and installing knowledge management systems to support engineering design and assessment (e.g. an engineering atlas).

5

#### ASSESS INDIGENOUS LANGUAGES, IDENTITIES, AND CULTURES

There are over 40 indigenous languages in the circumpolar Arctic. Language is one of the most important, but vulnerable, elements of Arctic cultural heritage. When speakers of endangered languages switch from their mother tongue to other languages for communication and education, vast amounts of cultural knowledge and tradition are lost.

#### Recommendation

Develop an integrated Arctic indigenous languages research plan that:

- Conducts regular assessments to understand the extent and diversity of languages and their viability for future generations
- Documents procedures to ensure that languages and place names used by Arctic people are recorded and preserved
- Promotes interregional and international activities geared at enhancing language use and exchanges, and
- Defines policy options and processes for language monitoring and preservation.





#### ARCTIC INNOVATION

By **Ken Coates**, Lead of UArctic Thematic Network on Northern Governance,
Director of the International Centre for Northern Governance and Development (ICNGD),
University of Saskatchewan and **Greg Poelzer**, Vice-Lead of UArctic Thematic Network
on Northern Governance, Executive Chair of the International Centre for Northern
Governance and Development (ICNGD), University of Saskatchewan

he Circumpolar North faces major challenges in the years ahead, beyond the often-mentioned issues of climate change, indigenous empowerment and rapid resource development. While the world's attention has shifted north in a way not seen for generations, the reality is that the region is not yet well-placed to tackle the challenges and capitalize on the opportunities posed by the 21st century. These are remarkable times, marked by the fastest and widest scientific and technological transformation in world history and the shift in requirements for personal and collective capacity building in the regional population.

The circumpolar world has to keep its eyes firmly on the climate change and resource development issues, but must also integrate into its planning the challenges of the changing world of work and the prospects that technological discoveries could greatly enhance the quality of the life in the region.

Northern resource development is possible largely because of continued improvement in extractive technologies, transportation systems, weather monitoring and the like. Continued improvement in these areas will make regional development more efficient, less expensive, safer, environmentally sustainable and more dependable. Technological advances could – and should – also contribute to sharp improvements in the quality of life for residents in the area. The advent of the internet services, admittedly requiring improvement across the Far North, have already brought major changes to the Arctic, from e-commerce to digital education, from greater access to entertainment to the early stages of telemedicine.

Circumpolar innovation, however, is at its infancy. At present, the world's technophilanthropists, like Bill Gates, focus their attention on the global South, where investments in clean water systems, social media innovations, new health services and the like can and have brought sweeping changes to literally millions of the world's poorest people. No comparable effort is being made in the Far North. Given that rich nations control the Arctic, it has fallen

to these countries to take up the challenge of Arctic scientific and technological innovation and to develop innovative solutions to northern conditions. Outside of the resource sector, development has been slow. To date, there has been no concerted and truly innovative approach to improving the quality of life through innovation. Northern regions get later and smaller versions of southern innovations, with very few North-centred innovations delivered as yet.

The North's future hinges, in substantial

measure, on a truly circumpolar initiative

to capitalize on new technologies to address pressing Arctic issues. On issues from domestic water supplies, northern food security, aggressive digital medicine systems, advanced educational technologies, remotely controlled delivery technologies, improved construction materials, responsive e-government approaches, improved Arctic clothing and the like, there is far too little research and development underway. Companies are loathe to invest the necessary money on the comparatively tiny Arctic population. An innovation that gains traction in the global South could find several billion users in short order; a comparable solution suited to the needs of the Far North might attract several hundred thousand consumers.

Responding to the technological opportunities of the 21st century requires the rapid and effective mobilization of Arctic talent and resolve. No one northern nation by itself has the technological capabilities, research facilities, entrepreneurial acumen or risk capital necessary to attract sustained attention to Arctic challenges. Collectively, the circumpolar world has a sizeable market, talent pool, business environment and human resolve to make more, if not the most, out of the greatest sustained, intense and remarkable period of scientific and technological change ever experienced. If this effort is left to national innovation ecosystems and to existing free market solutions, it is all but assured that the Far

North will fall technologically behind the rest of the developed world, not on the resource and climate change front, but rather on the quality of life sectors of greatest importance to the people of the Arctic.

The 21st century will not be won by those countries and regions that move slowly and cautiously, but rather those that innovate at the speed of the technological revolution. The Arctic is not well poised for a technological acceleration at present. Most of the innovative work – the research facilities and the highly talented people behind the rapid improvements in extractive and other technologies – are located in the South. Diseconomies of scale have limited northern entrepreneurial innovation and

regional capacity building across
the Arctic. The Far North is,
indeed, on the verge of being
left far behind through a
series of technological
transitions that will make
the shift from company/
resource towns to fly-in flyout operations seem minor
in comparison. The future
of work, the sustainability of
communities, the quality of life
for northerners, and the opportunities

of technologically-based transformation all hang in the balance.

There is a way forward, but it requires great resolve and commitment on behalf

of Arctic governments, business and citizens. The transitions of the scientific and technological revolution are upon us, just as the world of work and capacity building are already shifting rapidly. Meeting the challenges and opportunities of the 21st century requires a fundamental change in the North's approach to innovation and capacity building, with the two elements closely linked. Collaboration amongst northern peoples is essential; there are no outside agencies beyond national militaries and the extractive industries focusing their attention on circumpolar innovation. An Arctic innovation ecosystem, which draws together the best minds from science, business, government and the indigenous communities, is essential if the region has a hope of competing with global technological change.

ustainability is the most popular word used to describe the future of the Arctic nowadays. In most cases, it means sustainable management of the region's rich natural resources, which we plan to extract in the near future. But can extractive resource development lead to sustainability in the Arctic? Or does our demand for further economic growth counteract sustainability and an effective climate policy? How can we build trust and trigger motivation for change towards a low-carbon economy and change of lifestyle? What role can people of the North play in redefining their future and demanding an effective climate policy for the Arctic region? The UArctic seminar Humans in the Arctic: How to Create a Climate for Change, which was a part of the Arctic Frontiers Conference held in Tromsø on January 22, 2014, addressed these questions.

If taken seriously, human-induced climate change calls for a reorganization and transformation of our societies. Large-scale changes and threats trigger in many of us feelings of fear and insecurity, which in turn often prevents us from taking action. According to environmental sociologist Kari Marie Norgaard from the University of Oregon, our collective denial of an unpleasant reality leads to an incredible disconnect between knowledge and action and is an expression of an ethical crisis. Per Espen Stoknes, psychologist at the Centre for Climate Strategy at the Norwegian Business School in Oslo, reflected on the psychological barriers to societal change and how to overcome them. Instead of focusing on climate change as a paralyzing threat, we should offer opportunities to engage with it in a positive way. He advised using the power of social networks to trigger a change in behavior.

Practical solutions such as nudging or a cultural reframing of the climate issue in communication campaigns can help people to make the right decisions when it comes to the environment. To connect the climate issue to daily experiences, we can for example frame it as a health issue. We thus define personal action for change not as a burden, but as a step towards a healthier well-being. Our willingness to take action is, to a large extent, dependent on how we perceive climate change. Researching how we can make sense of the information and then how to convey that information to the public is therefore crucial in order to develop solutions that work.

Another researcher on the economy of the North proposed reforming the set of indicators with which we measure and define growth. Besides pure economic and financial indicators, we should also

better integrate the social and human dimensions into our definition of growth and well-being. The Arctic, with its unique prerequisites and expected economic shifts, could serve as a laboratory for change concerning the development of innovative business models – a point that was also emphasized by Ken Coates from the University of Saskatchewan (see page 14). International circumpolar cooperation on business innovation and green growth is a prerequisite to secure an economic development for the region which does not counteract, but rather supports effective climate action to reduce our ecological footprint on the planet.

The seminar was organized in cooperation with UiT The Arctic University of Norway. It attracted over 150 participants from research, politics, voluntary organizations and business.

#### **ANNELI WARIS MORENO**

I had attended pretty reluctantly an exchange information session at my university, University of Turku. After that, however, I went to the office of international affairs to find out if there was any chance of going on exchange to Canada for half a year. One of the secretaries informed me about an exchange program called north2north, which could be the perfect exchange program for me. I found out that the University of Turku belongs to the UArctic network, in which I found two Canadian francophone universities where I could go: it was either Université du Ouébec à Montréal (UOAM) or Université du Ouébec à

I decided that I wanted to challenge myself and go to a place I would've probably never gone to. UQAM was in Montreal, a big North American city, whereas UQAR was in Rimouski, the last "big city" in the north of Québec. UQAR sounded interesting, and I loved the history studies they were offering, so my choice was clear.

Once I arrived to Rimouski I realized that this was going to be the biggest challenge I had ever had during my studies. Despite the fact I had studied French for five years, my abilities were very limited and the accent of Ouébec (le québécois) made it even more challenging. For the first month and a half I felt like a little kid trying to express myself. I had to concentrate very hard to understand the teaching or normal speech. Despite the difficulties, I loved my courses and never skipped a class because the teachers and the studies were really motivating. I have never worked so hard than during my exchange, and all that hard work paid off: when I arrived to Québec my French was terribly bad, but by the time I left I had become a very fluent French speaker.

All of my exchange was amazing: I did things, met people and went to places I could've never dreamed of. My exchange also gave me a new perspective on northern regions. Despite the fact that Finland and Canada are really far away from each other, I saw lots of similarities in the cultures, which I believe is something that comes from the environment and the conditions of both countries. The nature was very similar and yet so huge and

My experience in Canada taught me that I shouldn't be scared of going to new places and that the language barrier can be defeated with a little bit of work and courage. Quebeckers are great people and they'll help you to express yourself and will make an effort to understand you. I highly recommend the Université du Québec à Rimouski. It's a tiny but great institution with a very high teaching level and devoted, motivated and experienced teachers. You need to work hard, but the teachers are fair and they are going to

> If you are still thinking if to go on exchange or not, just GO! It's a great boost for your studies and it changes you. You'll never be the same. I've had the most amazing experience ever, and I made many lifelong friends over there who are now part of my life despite the distance. Great experience – I would do it all over again!



# The View ABRADOR

When I meet new people, and they ask me where I am from, I say Labrador.
Just about everyone then asks, "Where is Labrador?"

have many answers, and the details depend on the audience. Generally I say that Labrador is a big chunk of land on Canada's northeast coast, that in the wintertime it's cold with lots of snow and ice, and that we have polar bears, wolves, arctic char, ring seals and caribou. I always add that we have a large indigenous population and that the region is home to some very large mega projects run by multinational conglomerates that extract our resources with little benefit for local people, except a handful of jobs when we are lucky. While Labrador is much more than this, for conversational purposes it's a good starting point. Interestingly, as I travel around the North I find that much of this description would fit many of the areas served by the University of the Arctic.

Like many other northern areas, we draw researchers from around the world studying topics as diverse as mental health, climate change, food security, and indigenous language retention. My home institution is Memorial University of Newfoundland, and we are very lucky to have a group of passionate researchers and professors who feel that conducting work in Labrador is an important contribution to our province, to our people, and to the world. The Labrador Institute in particular brings together committed academics that work very hard to expand the Labrador knowledge base and to provide new educational opportunities for all Labradorians. Recently the Labrador Institute has received significant support from Memorial and key partner agencies (i.e., ACOA, IBRD, etc.) to increase our capacity to conduct applied and basic research in the region.

For example, Labrador has a limited history of agriculture, mainly because our growing seasons are very short and soil quality is often poor, so one of our new researchers is collaborating with a small group of farmers using Biochar to improve local soils. The goal is to improve local food security and to reduce our dependence on imported produce. Our plan is then to take this knowledge and bring it to other regions of Labrador so it can be tested in smaller and more remote communities.

Another researcher in our midst is conducting archaeological research that has been requested by a local indigenous community. Through this work the community will be better able to plan housing developments for its people while protecting important cultural and historic sites.

Our team has also been developing an indigenous teacher training program, so these individuals can return to their home communities and connect with students in ways that are often difficult for transient instructors to achieve.

Through these and many other projects we are bringing the resources of the academic community to the North to improve the quality of life of people living in our region. Some of our projects are small in scope, and some will take longer than others, but ultimately over time we hope to have a positive impact on the lives of northern peoples, through research, innovation and education right here in Labrador. In this way the Labrador Institute is a mirror of the objectives of the University of the Arctic, in that we are in the North, for the North and by the North.

## Annual Report for 2013

The University of the Arctic (UArctic) is a cooperative network of universities, colleges, research institutes and other organizations concerned with education and research in and about the North. UArctic builds and strengthens collective resources and collaborative infrastructure that enables member institutions to better serve their constituents and their regions.

Through cooperation in education, research and outreach we enhance human capacity in the North, promote viable communities and sustainable economies, and forge global partnerships.



UArctic Vice-President Indigenous, Director, Labrador Institute, Memorial University of Newfoundland



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UArctic TOWARDS 2020

In November 2013, UArctic's Board of Governors approved its new Strategic Plan 2020, further establishing UArctic's role as a membership organization that serves the North. UArctic benefits students, public and private sectors, and the North as a region by creating strong international collaboration among its members.

UArctic's current vision is "An Empowered North - With Shared Voices," underlining that all northerners must have a say in their own future and that of the region as a whole. Our Mission to "Empower the people of the Circumpolar North by providing unique educational and research opportunities through collaboration within a powerful network of members" reinforces that aim.

Our values continue to demonstrate UArctic's commitment to the peoples, traditions, cultures and aspiration of the peoples of the region. UArctic is circumpolar – it promotes northern voices in the globalizing world, reflecting common values and interests across all eight Arctic states and among all northern peoples and cultures. UArctic is inclusive - it promotes cultural diversity, language plurality and gender equality while highlighting the partnership between the region's indigenous peoples and other northerners. UArctic is reciprocal - it promotes respectful relationships in education, science, research and policy based on reciprocity, equality and trust between northerners and other partners. This approach values the inclusion of traditional and indigenous knowledge systems, together with multidisciplinary perspectives from the arts, social and natural sciences.

The new Strategic Plan also sets out our network's goals for 2020:

**Students in the North** have access to the best and most relevant instructional and training resources.

**UArctic members** are the key participants in Arctic research.

**UArctic** is a leader in expanding knowledge about the North.

**UArctic members** gain value by their participation in the organization.

To carry out its mission and meet its goals, UArctic's operations and organization are set out in its Strategic Implementation Plan for the period 2014-2016. UArctic maintains a focus on issue-based networking through Thematic Networks and Institutes, mobility to support student and staff exchange across all areas of the network, supporting and promoting northernrelevant education programs including Circumpolar Studies, and strengthening our members' role in Arctic research. These activities are led by the President and six Vice-Presidents (Academic, Research, Organization, Indigenous, Interregional Cooperation, Finance), overseen by the Board of Governors. Council remains the key representative body for our members to participate and shape the organization.



#### **UArctic Facts**

#### 174 members

Higher education institutions and other organizations, from the Arctic and non-Arctic regions

#### Founded in 2001

28 Thematic Networks,
3 Institutes and 11 Offices

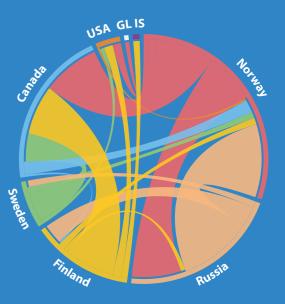
#### Want to stay informed?

Subscribe to the UArctic Shared Voices electronic Newsletter at www.uarctic.org/sharedvoices

#### north2north 2013 Student Mobility

The width of the country bars correspond to the number of students.

	Out	In
Norway	56	47
Russia	46	25
Finland	35	10
Sweden	18	3
Canada	7	63
USA	1	10
Greenland	0	2
Iceland	0	3
Total	163	163



Thematic Networks & Institutes	Year established	Bachelor courses	Masters courses field schools summer schools	PhD courses  field schools summer schools	Joint graduate programs in operation	Joint graduate programs under development	Research projects	Publications / scientific articles (peer reviewed)	Intl. conferences, workshops	Other outreach (events, online)	Mobility activities
Arctic Coastal and Marine Issues		ı j	ļ						ØØ	<u> </u>	×
Arctic Engineering and Science		<u>_</u>	<u>·</u>					<u></u>	_		×
Arctic Extractive Industries									ijij	_	
Arctic Geology			0000				<u> </u>		į į		×
Arctic Law								—————————————————————————————————————	ti ti		_
Arctic Sustainable Arts & Design									MAN N	_	XXX
Commercialization of Science and Technology for the North						approval from	Council in	2014	777		7.777
Communicating Arctic Research				ļļ,					1)		
Digital Media and Media Arts				•					_		
Distance Education and e-Learning									1	Ţ	
EALAT Institute									i ji ji		
Energy in New Time			00	ÎÎ	<b>1</b>			<b>**</b>	ij		
Environmental Impact Assessment of Industry Contaminate Areas											×
Environmental Training and Education for Sustainable Development of the Arctic			Û								
Geopolitics and Security								<b>1000</b>			
Global Change						<b>=</b>					
Health and Well-being in the Arctic				Į.	<b>*</b>	<b>*</b>	<u> </u>				
Indigenous Arts and Crafts											
Institute for Applied Circumpolar Policy									ij		
Institute Northern Research Forum			Ü						ÜÜ		
Local and Regional Development in the North								<b>~</b>	9999		
Managing Small and Medium Sized Enterprises in the North		<b>U</b>					<b>A</b>		1)		*
Natural Hazards											
Northern Food Security			Û	Ů							K
Northern Governance			<b>I</b>	Ů	<b>=</b>			<b>\$\$\$</b>	1		
Northern Tourism						<b>=</b>			ij		
Permafrost		Ů	Ů					<b>&gt;</b>		<b>#</b>	
Polar Ice, Climate and Land Dynamics				Ů							
Social Work			Û		<b>=</b>		<u> </u>		1)		
The Verdde Program		Û						<b>&gt;</b>	1		K
World Images of Indigenous Peoples of the North							11				



UArctic International Secretariat University of Lapland Box 122, 96101 Rovaniemi, FINLAND secretariat@uarctic.org

uarctic.org

# COLLABORATION Among Field Stations for Arctic Research

By **Kirsi Latola**, UArctic Director of Thematic Networks, Research Coordinator, Thule Institute, University of Oulu and **Hannele Savela**, Coordinator, INTERACT project, Thule Institute, University of Oulu

NTERACT is a circumpolar network of terrestrial field stations, building capacity for research and monitoring in the Arctic. The network currently consists of 58 research stations, reaching from Cherskii on the mouth of the Kolyma River in Northeast Siberia in the east to Barrow on the northern tip of Alaska in the west, and from the northernmost tip of land in Greenland at Station Nord to about 40 degrees south in the Tien Shan Mountains of Kyrgyzstan. The research and monitoring conducted in the INTERACT is multidisciplinary and covers for example climatology, permafrost, glaciers, lakes and rivers, biodiversity, ecosystem function and biogeochemical cycling.

INTERACT is funded by the EU FP7 Infrastructures programme in 2011-2014, and was nominated as an EC Success Story in 2012. The activities within INTERACT include Station Managers' Forum, Joint Research Activities, and Outreach and Transnational Access which has so far supported more than 360 researchers to conduct research at 20 European and Russian stations. INTERACT provides input to major international research and assessment programmes, as well as interacts with local residents, stakeholders and the stations and partner institutions in the network. This increases the public awareness about environmental changes

and adaptation to them, and access to information for research and education at all levels

The experiences of the stations about the collaboration in the INTERACT have been very positive. Station manager Elena Lapshina from the Mukhrino Field Station (MFS) in Khanty-Mansiysk in Russia tells: "Our station was established as a part of the UNESCO chair 'Environmental dynamics and global climate changes' of Yugra State University in 2009. We have been participating in INTERACT since the beginning and now MFS is one of the most popular stations in the Western Siberia."

Dr. Lapshina sees multiple benefits in the international network: "Our staff has improved their research management skills and gained priceless experience through personal communication with their counterparts in the Station Managers' Forum. Cooperation with other stations has helped to distribute information about MFS and its research facilities. INTERACT has provided an opportunity to enter the global scientific network to share their experience and knowledge, which is important in our globalized world requiring common standards for data processing and use."

In addition to research, the future holds potential in the field of education. "The

international summer school Prospects for Sustainable Development of the Oil-Producing Region of Yugra will be held at the Yugra State University in August 2014. Mukhrino Field Station will also be involved, and students and researchers from the UArctic universities are among the invited participants," Elena Lapshina reveals.

She envisions that even more possibilities exist for future collaboration: "Due to the unique Arctic ecosystems in Western Siberia such as peatlands, old forests and flood plains, MFS is a crucial base for research on the climate change in the region. The Yugra region is also famous for its deposits of oil and gas, and the area is inhabited by Khanty and Mansi with their indigenous culture and traditions. All these are possible topics for developing joint programs with UArctic members and in Thematic Networks." INTERACT and UArctic have signed a Memorandum of Understanding so all is set for the fruitful cooperation.

Read more about INTERACT at www.eu-interact.org

Join the adventure and follow the researchers conducting field work in the Arctic at the INTERACT Arctic Research Blogs: www.arcticresearch.wordpress.com

Before 2008, I never had any desire to learn another language. Before 2010, I had never left the continent of North America. And before 2012, I thought that I would never see Europe. But that year, I decided to take advantage of the wonderful north2north exchange program between the University of months for a totally contrasting academic and cultural experience.

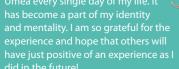
away where you don't speak the language or know another single person is quite the culture shock. Mix in a complete readjustment of temporal awareness, intense and random bouts of homesickness, and lack of people

to do as much as I could to take advantage of this experience. During my time in Umeå, I learned how to speak functional Swedish. I integrated myself into a new academic system. I got to watch the Cross-Country political propaganda and Disney cartoons in Swedish on Christmas Eve.

perspective on my lifestyle and home and truly made me proud to be a northerner. I learned that while there are many differences when comparing northern cultures, there are also many similarities shared by the

new friends. Buy foods at the grocery store because you have no idea what they are. Stay in contact with your friends once you leave. Don't ever be ashamed of where you come from or not knowing something. And most importantly, ask your friends from other countries to teach you all that they can about their culture – you will find that you have more in common

I will most definitely be returning to Sweden again someday. My Swedish is not what it used to be, and I have stopped craving some of the Swedish





## MINING NO SHORTCUT GREENLAND

#### RESOURCES

Greenland would benefit most by permitting a limited number of mines, operational for a limited number of years, in a limited number of areas, concludes a new report compiled by the University of Copenhagen and Ilisimatusarfik, the University of Greenland. But even if the proceeds from mining are invested in a wealth fund, the country will still rely on an annual block grant from Denmark.

The report, titled "For the Benefit of Greenland" and authored by a wide range of specialists making up the Committee for Greenlandic Mineral Resources to the Benefit of Society, concludes that, contrary to the hopes of many Greenlandic lawmakers, mineral and oil extraction is no shortcut for the country to obtain economic independence from the Kingdom of Denmark.

"Greenland faces some daunting economic challenges. And even though natural resource exploitation will become important for Greenland, it is not enough. Because of its economy and its demographics, Greenland will need to employ a range of different measures, and that includes a block grant for the foreseeable future," says Minik Rosing, Professor of Geology at the University of Copenhagen and the chairman of the University of Greenland.

The report praises Greenland for its efforts to regulate natural resource exploitation, and confirms that such activity could serve to help Greenland on its path to development.

However, the report also finds that Greenland's known mineral resource deposits are not large enough to serve as the country's sole additional source of income in addition to fisheries.

In order for Greenland to rely solely on mining, 12 "large scale" mines would need to be operational by 2040, with five such mines in operation at any one time. Currently there are six known major mineral deposits, making such a goal, in the opinion of the Committee, unrealistic. Even with that many mineral operations, it would still be impossible to end Greenland's reliance on the block grant.

#### **SLOW BUT STEADY WINS THE MOST**

The report's authors suggest that permitting a limited number of mines, operational for a limited number of years, in a limited number of areas has the greatest potential benefit for Greenland.

The Committee looked at Greenland's ambitions of becoming a natural resource exporter and economic independence in a broad perspective, including such areas as geology, environmental impacts, geopolitics, law, societal impacts and economy. The report contains five scenarios for Greenland's development and identifies 21 areas that Greenland must focus on if the country's natural resources are to benefit the country in the long term.

"As we see it, one possible way for Greenland to make the most of its natural resources would be to limit the number of mines and place them in carefully selected areas. All mines have undesired effects, but this would minimize their cultural and environmental impact," Rosing says.

"If Greenland were to rapidly develop a major natural resource industry, as current plans call for, it would need to recruit most of the labour abroad, which would prevent local residents from developing the skills required to take jobs in the industry. That would result in reduced societal benefits.

Our opinion, therefore, is that a more cautious approach to development would be best," Rosing says and adds that should also focus on developing an industry unrelated to natural resource extraction in order to improve chances for economic development.

#### **NATURAL RESOURCE WEALTH FUND CRUCIAL**

The report also concludes that establishment of a natural resource wealth fund could be decisive in ensuring self-sufficiency. Greenlandic law currently requires a portion of the income from natural resource exploitation to be set aside in a wealth fund as a way to help stabilize the economy. Such a fund, however, has yet to be established.

"Our conclusion is that a natural resource wealth fund is an absolute necessity. If work to establish such a fund does not begin in the near future, it will be difficult for Greenland to become economically self-sufficient. And, if all known natural resource deposits are exploited without any of the proceeds being set aside in a wealth fund, the country's national wealth would be squandered, leaving future generations with no way to provide for themselves," Rosing says.





as Sami reindeer herding, and wildlife with charisma like the polar bear. To give tourism some scope, in summer 2012 the Alaska Department of Commerce, Community and Economic Development, reported that Alaska saw almost 1.6 million out-of-state visitors. The value of this tourism is estimated to be more than 46,000 jobs, in excess of USD \$1.8 billion in visitor spending, and an overall economic impact of more than USD \$3.9 billion. The Icelandic Tourism Board reports that Iceland has seen tourism more than double since 2000 (302,900 international visitors in 2000, 672,900 in 2012), which in 2012 accounted for 23.5% of Iceland's export revenue (ISK 238 billion). Similarly, in mainland Europe the Lapland tourism agency reports that visitor nights in Finnish

fabric of the region, but with growth can come environmental, social and cultural strain. The UArctic Thematic Network on Northern Tourism was established to encourage collaborative research projects that examine these tensions integrated alongside educational empowerment. Keeping an interdisciplinary perspective across the Circumpolar North has always been a key concern, along with building innovative outcomes that reflect local knowledge and are relevant to northern communities. In the past year we have seen our activity levels increase. We have expanded our reach with new partners in Alaska (University of Alaska Fairbanks), Russia (Buryat State University), Canada (Cape Breton University, Thompson Rivers University, University of Ottawa, UQAM)

through the PAME working group.

In addition, we have gone back to our roots and re-connected to our educational endeavors. From 2008-2010 the network met annually to design a shared graduate program. This idea, although endorsed by UArctic, was never implemented due to a lack of funding. However, in March 2014 five member institutions, led by the University of Lapland, submitted a joint Master's application to the Erasmus+ program to support northern tourism. We also continue to break new ground and have begun to disseminate knowledge as a collective – versus through our own individual publication records – by working on a co-authored submission to the 2014 Arctic Yearbook.

## By **Pat Maher** Lead of UArctic Thematic Network on Northern Tourism, Associate Professor, Cape Breton University

# QUIETICE REMOTE WINTER ACTIVITIES NATURE & SANTA STHDIT NA HALBON DEFINIS STANDARD DEFINIS

he Arctic regions of the world have never attracted as much public attention as they do today. As the Arctic has become a regularly featured topic in discussions about future energy sources, economic development and climate change, also the term "Arctic" has established a very popular status. It is increasingly used in public speech as well as marketing of destinations, services and products branded with this evidently trendy term. However, little attention has been paid to the meanings associated with this term, commonly defined solely based on the scientific definitions of the region.

In my Master's research, I wanted to find out how international tourists visiting the city of Rovaniemi in Finnish Lapland

understand and define the term "Arctic". As the term is actively used in the tourism marketing of Finland and Finnish Lapland, I wanted to find out whether tourists visiting the region actually perceived it as "Arctic", and whether their understandings of the term were similar to the images created by tourism marketing. I interviewed international tourists visiting Rovaniemi both in summer and winter, and examined their perceptions from a qualitative, phenomenological perspective. The study shows that the understandings and images tourists have of the concept of "Arctic" are not in line with the fairly urban and populated surroundings of Rovaniemi, as most tourists describe "Arctic" in relation to the geographic region, which they perceive as an uninhabited, snow-filled wilderness. Although in wintertime the city of

Rovaniemi can offer tourists cold weather, snow, ice and darkness, it is still not perceived to be a truly "Arctic" destination. In summertime, "Arctic" elements are even harder to find, as most tourists connect the concept to wintery features only. Thus, the research suggests that the active use of the term "Arctic" in the tourism marketing of Finland should be reconsidered, as the Arctic images produced by tourism marketing and the presumptions tourists hold of the concept do not meet with the surrounding reality.

I became interested in the colloquial definitions people give to the concept of "Arctic" as I followed how popular the term became in Finland, used in branding and marketing of products, companies and destinations. I approached the national and

regional tourism bodies, inquiring as to what is it exactly that they are marketing with the term, and how they would define "Arctic" from a social or a cultural point of view. As everyone I asked shrugged their shoulders and cited definitions from Wikipedia to me, I became determined to start investigate the matter myself. I developed the descriptive term "Arcticity", based on the similar term "nordicity" coined by the Canadian geographer and linguist Louis-Edmond Hamelin, to describe the "Arctic" features people identify in their perceptions. For me, defining Arcticity became more than just a research problem of my thesis – it became a passion. I plan to continue the work I have initiated in my Master's thesis, to be able to reach a broader understanding of all the different ways people comprehend and assign meanings to their ideas of the Arctic.

#### IDA MÜLLER

Although born in a small coastal town in Western Finland, I've lived most of my life in Rovaniemi, Finnish Lapland. I study tourism research at the University of Lapland in Rovaniemi, specializing in Arctic tourism. In 2012 I got the chance to travel to the 6<sup>th</sup> annual UArctic Rectors' Forum held in Manitoba, Canada as a student representative of the University of Lapland. Sitting on the airplane, crossing the Atlantic for the first time in my life, I did not quite suspect how big of an influence the trip would have on me. During the intense oneweek trip to Canada – the country I had always dreamed to visit – I immersed myself with the nature and new cultures surrounding me. I will never forget the experiences I gained and the people I met during the trip, and I will definitely return to Canada one day.

My interest in the Arctic issues began on a day like any other, in December 2011. I looked outside my window, depressed to see that the temperature was still not below zero and there was no snow. It was then that I asked myself, "How on earth do people market this place as an 'Arctic' destination?" I did not realize that asking myself that question would spark an increasing interest in Arctic issues, which during the years developed into a passion for both my research topic and the Arctic region.

Today, I have just finished my Master's studies and will soon graduate as a Master of Social Sciences. In my Master's thesis I investigated the concept of "Arctic" from a social perspective, wanting to find out how tourists understand and define the concept. I am currently working as a project coordinator at the university, developing an international Master's degree program on northern tourism, originally created by the members of UArctic Thematic Network on Northern Tourism. In the future I would like to continue working on my research, perhaps even find a profession related to Arctic issues. I would like to offer my contribution to the development of sustainable tourism in the Arctic and deepen my own relationship to the vast region. Most importantly, I want to stay and live in the North, as it has become my home in a way like no other place ever before.



# Capacity Building Through Health Research and Education

any Arctic communities suffer from critical shortages of health professionals due to geographically dispersed populations, lack of local training, recruitment challenges including short-term positions, continuity and responsibility, and cultural and language barriers. Building capacity in the Arctic region through health research and education is of vital importance to overcome these challenges. The mission of the UArctic Thematic Network on Health and Well-being in the Arctic is to improve the sustainable development of health and well-being in circumpolar regions by promoting research projects on health, organizing research training and distributing scientific information. The main task of the network is to increase the quantity and quality of scientific research carried out in the circumpolar area through the development of a graduate school and international Master's and PhD programs for Circumpolar Health and Well-being.

Specialist education for medical doctors in Greenland as general practice has been a possibility through the last decade and has demonstrated its importance for capacity building in the healthcare services. The Greenland Center for Health Research was established in 2008 and connected to University of Greenland in 2013. The Center's vision is to improve the health status in Greenland through initiation

and coordination of health research. The Center aims to increase coordination among research institutions; develop, exchange, disseminate and apply scientific knowledge; create national and international networks; build local capacity through mentoring and PhD programs; and improve community involvement and local partnerships.

The Thematic Network helped organize a PhD Summer School in cooperation with the Greenland Center for Health Research, the Greenland Climate Research Centre and the University of Alberta in Nuuk in September 2013. The summer school took place in association with the NUNAMED 2013 conference with "Health, Society and Environment in Relation to Large-Scale Industrial Projects" as its theme.

Given the prospect of the growth of extractive industries in Greenland, the conference participants explored the consequences and implications of largescale projects for personal and community health and well-being, as well as the impacts on society and environment. With reference to historical, current and planned projects, such as an iron ore mining project in the Nuuk Fjord, a range of social, cultural and environmental health issues in wider Greenlandic and circumpolar context were also considered. The Summer School included lectures from leading Arctic scientists, together with workshops that explored the themes in depth.

#### By Gert Mulvad

MD, Greenland Center for Health Research, University of Greenland 

## Increasing Northern Mobility with Denmark, Greenland and the Faroe Islands

By Pirkko Pulkkanen

International Relations Coordinator, UArctic International Secretariat



MobilityDK was launched as a pilot model for providing financial support for teacher, researcher and student exchange. The project is part of an overall goal to support mobility for the Kingdom of Denmark's Arctic education activities, and mobility from the Kingdom of Denmark to Arctic educational activities in different areas of the Arctic through the UArctic network. Furthermore, the staff mobility component promotes the initiation of new Thematic Networks with engagement from Danish, Greenlandic and Faroese institutions.

Two open calls for mobility grants were made in 2013, and both received a fair number of applications from students as well as teachers and researchers. Although most of the exchanges will take place during spring and summer 2014, the feedback received so far has been positive:

"My short stay in Greenland provided an introduction to the country, its welcoming people, and networks that are established to foster coordination among research institutions and to create international networks. I'm thankful for this experience as it gave me a broader perspective of Arctic issues." (Sandra Juutilainen, Thule Institute, University of Oulu)

"Danish Arctic research is Greenlandoriented and would benefit from a broader circumpolar perspective. Participation in Arctic Frontiers gave me the opportunity to engage with e.g. Saami civil society leaders, Norwegian research leaders, US-Alaskan research leaders, and Norwegian and Finnish business executives for developing collaboration which can contribute to broaden Danish Arctic research." (Rasmus Gjedssø Bertelsen, Aalborg University)

"The grant allowed me to obtain teaching experience but also developed my knowledge of this island nation in the West Nordic region of the Arctic and gave me a lot of contacts." (Irina Zhilina, Arctic Centre, University of Lapland)

In addition to MobilityDK, another three projects linked to Thematic Networks are underway: Nordic Mining School e-learning course (led by Arctic Technology Centre

ARTEK at Technical University of Denmark); interdisciplinary summer school "Comprehensive Sustainable Development in Arctic Societies" (led by CIRCLA Centre for Innovation and Research in Culture and Learning in the Arctic at Aalborg University); and Nordic Master Program, Managing Societal Development in the High North (led by the University of the Faroe Islands).

To establish good communication between UArctic and the members and to discuss matters of common concern, a caucus meeting of all UArctic members in the Kingdom of Denmark was organized in November 2013 at Aalborg University. The meeting was a kickoff for deeper future cooperation with UArctic and to help the institutions to get better knowledge of each other's Arcticrelevant activities. Positive signals were given towards the mobility and project funding from the Ministry to support UArctic. The next caucus meeting takes place in May 2014 in Copenhagen, the aim of which is to discuss increased involvement of members from the Kingdom of Denmark in UArctic activities, the status and results of the UArctic projects funded by DASTI (including the MobilityDK project), and priorities for future funding.



#### FROM NUUK TO TROMSØ: A STUDY TRIP REPORT

#### Nina-Vivi Andersen

Some say that the world is small, but the truth is, it is big and complicated when it comes to the laws, non-governmental organizations, politics, finance, the EU and the cooperation between countries. We're eleven journalism students from Greenland who were on a study trip to Tromsø to meet people who know about fishery in the Arctic and to visit the Arctic Council Secretariat.

#### **Ivik Kristiansen**

The similarities between Greenland and Norway were there to see, even before our flight landed in Tromsø. Towns scattered along a similar coast, the mountains, and, of course, the snow. The climate was not all that different either, in terms of humidity (good) and temperature (bad). The obvious difference was the trees. That, however, was a big difference. In many ways Norway feels familiar, but yet so different that it feels alien.

#### Paarnaq Hansen

I was surprised how much we have in common with Norway (Tromsø). Our histories, fisheries, nature (except for the trees) have a lot in common – it's like seeing how Greenland will look like in the future. It was a great feeling, knowing that we aren't the only ones living in a difficult climate, trying to live from fishery. In Norway they are already drilling oil, and that's what we want to accomplish in the future as well. So I look up to Norway and hope that someday in the future we in Greenland will be as successful.

#### **Andrea Christiansen**

Meeting with the Arctic Council employees was special. The way the communication chef represented the Council was great, understandable, and easy to discuss. We saw three horrifying movie clips about climate change that touched us because we live in the core of the worldwide change. The meeting expanded my point of view on how they are fighting climate change. Now, knowing how the arena for discussions takes the issues and brings them up is comforting. For me it's a sign of hope – a hope that more of people will take action before it's too late.

#### **Ane-Marie Petersen**

I can only say this is much better than just sitting in our home and reading about it. Now the experience is stuck in our heads. If we were just home and reading a text, it would eventually be forgotten. But because of the study trip, it will not be.

MobilityDK is a pilot model for providing financial support for teacher, researcher and student exchange. MobilityDK is a part of the UArctic Danish Mobility Project, the goal of which is to support mobility for the Kingdom of Denmark's Arctic education activities, and mobility from the Kingdom of Denmark to Arctic educational activities in different areas of the Arctic through the UArctic network. The program is supported by the Danish Agency for Science, Technology and Innovation.

#### THE FIFTH WORLD REINDEER HERDERS' CONGRESS By Mikhail Pogodaev Chair, Association of World

Reindeer Herders

The Association of World Reindeer Herders (WRH) Fifth World Reindeer Herders' Congress was held in Aoluguya, Inner Mongolia in China between July 24-29, 2013.

More information about the 5th World Reindeer Herders' Congress in China can be found at WRH's webpage www.reindeerherding.org

oluguya is located approximately four kilometers outside the city of Genhe in northeast China. The reindeer herding peoples in China are Evenki and are concentrated in and around Aoluguva.

The World Reindeer Herders' Congress is a unique cultural and professional event that brings together representatives of reindeer herding peoples from around the circumpolar region. The Congress is organized by the Association of World Reindeer Herders (WRH) in cooperation with the International Centre for Reindeer Husbandry and local hosts. International cooperation in reindeer husbandry in modern times dates back to 1993 with the Reindeer Peoples' Festival in Tromsø, Norway. Previous congresses have been held in Nadym, Russia, Inari, Finland, Yakutsk, Russia and in Kautokeino, Norway.

Approximately 300 people from seven national states participated in the Congress in China. In total 64 delegates, representing twenty reindeer herding regions and around 90 % of world reindeer husbandry,

participated in the Congress. In this respect the Fifth World Reindeer Herders Congress could be said to be the largest

The Congress was also attended by representatives from national, regional and international authorities, from education and research institutions both at national and international level, and other state and private organizations and bodies dealing with issues related to reindeer husbandry and minorities.

Issues handled by the Congress included the four-year report from board of WRH to the Congress on activities and work done since the last Congress in 2009, which was in Kautokeino, Norway. Further, the Congress accepted Scotland's application to become a full member region in WRH, and accepted the offer by Sweden to hold the next Congress in 2017.

The Congress appointed a new Council and elected the Council presidency. Mr. Juha Magga from Finland was elected as President while Mr. Mikhail Yar

from Yamalo-Nenets AO and Mr. Gu Xinjun from China were elected as Vice-Presidents. The Council named the new Board, and it consists of seven members with Mr. Mikhail Pogodaev from the Republic of Sakha (Yakutia) as Chair and Ms. Helena Omma from Sweden and Mrs. Inger Anita Smuk from Norway as Vice-

The most important document emerging from the Congress is the Aoluguya Declaration, in which the Congress has defined issues and work to which WRH's executive bodies should give particular attention to in the upcoming period (2013-2017). The Congress has listed six of the most central issues facing world reindeer husbandry: 1) reindeer husbandry in taiga areas, 2) information and communication, 3) health in reindeer husbandry, 4) globalization and international collaboration, 5) pastures and biodiversity, and 6) youth, knowledge, research and education.

The Aoluguya Declaration, both in English and Russian, can be found on WRH's homepage: www.reindeerherding.org.

During the Congress, reindeer herdin youth organized an EALLIN workshop. SDWG EALLIN: the Voice of Reindee Herding Youth is a project of the Russia Federation in Arctic Council Sustainable Development Working Group and led by the Association of World Reindeer Herders and the International Centre for Reindeer Husbandry.

A tradition connected to the World Reindeer Herder's Congress is to organize an exhibition of drawings made by children who are in and of reindeer husbandry. The Congress in China received more than 250 drawings, all of which were displayed during the Congress.

Another tradition during the Congress is the World Championship in Lassoing. Only reindeer herders, both women and men, can participate in this competition and it is always intensely competitive. The champion in women's class was Ms. Varvara Struchkova from the Republic of Sakha (Yakutia) in Russia, and the champion in men's class was Mr. Janne Nakkalajarvi from Finland.

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#### **MONIKA MARGRÉT STEFÁNSDÓTTIR**



My name is Monika Margrét Stefánsdóttir, and I am a student representative elected on the UArctic Board of Governors.

My interest in Arctic issues began when I was still in my BA studies in which much of the teaching was related to the rural areas of the North. At the moment I am finishing my Master's thesis in Polar Law at the University of Akureyri. My thesis is about the socioeconomic impacts of large-scale projects in the Arctic with special emphasis on Greenland.

I got involved with UArctic through my home institute, the University of Akureyri. My experience of being at the UArctic Board of Governors has been great. I felt very welcome by the people, and my feeling is that every one of them is willing to assist and teach the newcomers. My first and only meeting so far was interesting, and I am grateful to get this opportunity as a student, to learn from and be guided by the people at the Board.

I see my role as a student representative as an opportunity to get further knowledge about the structure of UArctic and also as an opportunity to assist and work on projects that involve other students. For example, in May I will be working with the Students' Forum, held in conjunction with UArctic Rectors' Forum and hosted by the University of Akureyri.

THE ARCTIC SUSTAINABLE ARTS AND DESIGN (ASAD) THEMATIC NETWORK HAS BEEN DEVELOPING **NEW MODES OF COLLABORATION IN** EDUCATION, RESEARCH, ART AND DESIGN SINCE 2012. IN 2013, FOUR **WORKSHOPS WERE** ARRANGED.

#### **JAMIE RESCHNY**



My name is Jamie Reschny, and I am a student representative on the UArctic Board of Governors.

I have been involved in northern research for the past 15 years. My interest in northern research was solidified with a Northern Studies, Bachelor of Arts degree from the University of Northern British Columbia and a MA in Geography from the Memorial University of Newfoundland. I am currently a doctoral candidate in the Health Sciences program at UNBC, and continue to work with northern communities in my research.

However, my academic, employment and personal interests often overlap. I am currently employed as a Research Manager for a co-op of researchers in the School of Health Sciences at UNBC, operate a consultancy, and volunteer on a number of local, regional and international boards and committees.

My experience on the UArctic Board has been exceptional. The group is diverse and welcoming, and they have created opportunities for students' mentoring at the organizational level, as well as insight into the functions of an international post-secondary structure.

In particular, as a voting Board member I have had the opportunity to attend Board meetings including Iceland in 2013 and Sweden in 2014. I have also helped draft and present a 'Student Ambassador Plan' to the Board and invited guests. In addition, I have promoted and supported the UArctic as an active member on Organizing Committees for the 17th Council Meeting of the UArctic and the International Congress of Arctic Social Sciences VIII. Both events will be held in May 2014 at the University of Northern British Columbia in Prince George, BC.

rt-based research and innovative forms of visual arts have been used to develop methods for northern and Arctic actors to communicate their culture by analysing it from the inside. The Winter Art Workshop was arranged as a part of Reykjavik Winter Lights Festival in January 2013. In April Northern Places - Tracking the Ugrian Traces through Placespecific Art and Photography workshop was held in Syktyykar. Komi Republic in Russia (in collaboration with Syktyvkar State University and the University of Lapland). The focus of the activity was photography, but the project was multidisciplinary – the workshops also resulted in, among other things, installations and environmental, visual, performative and video art. At

the end of the workshops, students held

an exhibition in Syktyvkar which later

in Finland.

travelled to Rovaniemi, Lahti and Helsinki

# ACROSS

annual publication Relate North: Review of Arctic Sustainable Arts and Design.

ASAD aims to share good practice by publishing results of research and developing projects. The latest publication COOL – Applied Visual Art in the North, presents a series of essays and reports on the topic of contemporary arts focused on community-based and socially engaged art. Authors include academics, artists, curators and postgraduate students who share a commitment to advancing the cause of context sensitive art, research and education in the North.

The book is available as a free

www.asadnetwork.org.

By Timo Jokela

download at the new ASAD website

Lead of UArctic Thematic Network on Arctic

Sustainable Arts and Design (ASAD), Dean,

Faculty of Art and Design, University of Lapland

The main ASAD activity of 2013 was the second ASAD Symposium and Exhibition Relate North: Engagement, Art and Representation held in Reykjavik, Nordic House in November 2013. Participating researchers and artists came from Finland, Sweden, Norway, Iceland, Russia (Komi and Yakutia republics), Scotland, Alaska and Canada. A highly successful and positively evaluated event, some of the projects will be featured in the new ASAD



The Arctic Shore Lights workshop (November 2013) was place-specific fire art event in Revkjavik (collaboration between the Iceland Academy of the Art and the University of Lapland). The inspiration was the annual River Lights event held simultaneously in Rovaniemi, Finland. These events celebrate the light as it begins its journey through the polar night typical at these latitudes. The intensive two-week course aimed to provide the experience of fire as a starting point for community art that can inspire and unite local groups.

Northern circumstances were the focus of the Winter Design Festival (University of Alaska Anchorage collaborating with Nesna University College, Norway). Three ASAD workshops had a communitybased/place-specific approach to build partnerships between universities, art and design education and surrounding sociocultural contexts. Workshops were based on the ASAD notion that art can renew and strengthen cultures. Therefore, developing art education has a strong impact not only on the culture, but also on the well-being and economic life of the North and the Arctic as well.

ASAD partners involved in design held the annual Arctic Design seminar as a part of Rovaniemi Design Week in February 2013. The ASAD network facilitates exhibition exchange between partner universities, a great example of which was Art of Arctic – Sakha a collaboration between Arctic State Institution of Arts and Culture Sakha (Yakutia, Russia) and the University of Lapland in Arktikum, Rovaniemi (November 2013).

### Sacred Sites as Arctic Cultural Heritage

International Conference and Workshop to Launch an Educational Research Project on Sacred Natural Sites as Arctic Cultural Heritage – Co-organized by the Thematic Network on Arctic Law

> By **Leena Heinämäki,** Vice-Lead of UArctic Thematic Network on Arctic Law, Researcher, Arctic Centre, University of Lapland and **Thora Martina Herrmann**, Associate Professor, Université de Montréal

ulturally and spiritually important landscapes in the Arctic region express the interconnectedness of indigenous peoples with the natural and spiritual environment. Their preservation has been, and continues to be, essential to indigenous peoples' identity and traditional livelihoods. These living landscapes can contain individual sites, or sacred sites, which are associated with strong spiritual or cultural intangible values of the natural elements. During the last decade, there has been a growing awareness that cultural landscapes that include both cultural and natural elements are worth preserving. Likewise, the importance of indigenous peoples' sacred sites for the conservation of biological and cultural diversity has received increasing legal attention. As recognized by UNESCO, sacred sites can be seen as the world heritage of all people, worth preserving for future generations. In the Arctic, they can be seen as places of spiritual well-being, enhancing the good quality of life in the North.

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In September 2013, the Northern Institute for Environmental and Minority Law at the Arctic Centre of the University of Lapland, together with the Université de Montréal and the UArctic Thematic Network on Arctic Law organized an international, multi-disciplinary conference titled Protecting the Sacred: Recognition of Sacred Sites of Indigenous Peoples for Sustaining Nature and Culture in Northern and Arctic Regions. This significant and warm-hearted event took place in Rovaniemi and Pyhätunturi, an ancient sacred area of the Forest-Saami. It gathered nearly 80 sacred sites guardians of indigenous communities, indigenous peoples, scientists and policy makers to discuss pressing sacred sites issues, i.e. legal and environmental protection, education, identity, cultural heritage preservation, transmission of culture and spirituality. Participants came from six Arctic countries, and as far away as Yakutia, eastern Siberia, Canada and Alaska.

Conference participants joined to issue a Statement and Recommendations for policy-making and management related to sacred sites in the Arctic. This Statement calls for better recognition, legal protection and management of sacred sites and sanctuaries of indigenous peoples in the Arctic region. The Conference Statement and Recommendations acknowledge the urgent need to address growing threats to sacred sites such as climate change, extractive industries such as mining, forestry, oil and gas and their associated operations, unsustainable tourism, military operations and infrastructural developments, statedominated educational curricula, religious imposition and vandalism. It reaffirms the need for respect for indigenous peoples' right to self-determination and their view that any measure for the protection of indigenous peoples' sacred sites must be considered under self-determination and the effective participation of indigenous peoples.

The Conference acted as a platform to create a multidisciplinary, educational and participatory research project on Arctic sacred sites. A first comprehensive book with more than twenty high quality articles is under preparation. The next step will be to hold an indigenous rights-holder workshop this June (2014) in Inari, Finnish Lapland in order to advance the project planning. Besides the co-organizers of the Conference, this workshop is coorganized with the Saami Educational Institute and the Saami museum SIIDA. The workshop will give the strongest voice to indigenous peoples as owners of their traditional knowledge and cultural heritage. The research project aims to create true partnerships between academics and indigenous organizations, science and education as well as different knowledge systems, highlighting indigenous practices and customary laws as necessary and relevant in all discussions and actions related to the conservation and the

management of sacred sites.

#### PHILIPPE GAGNÉ

Wind. We are all individual brisks; shaking the world from its uncertainty, blowing the leaves of our past experiences until they fly out of our sight, only to make some new ones fall from the immense and forever growing tree that is our life. We are constantly striving for new experiences: jumping, running, diving, swimming in a pool of infinite possibilities. Living something new; we have all been there, and what an incredible feeling.

Adventure. I am walking through a silent forest waiting to hear the sound of sparkling leaves created by each step while the cracking trees are plotting secretly behind my back, but I can't help but smile. Air is fresh, crisp, filling my sleepy lungs. It is through the eyes of a child that I see what lies ahead: thrilling emotions through the uncertainness of the future. How pleasant it is to step in a path you've never ever stepped into, to dip yourself in lake you've never dipped into, to be put in a situation completely unusual with only yourself to pull your own person from its state of uncomfortable pleasure. I am heading to Rovaniemi, Lapland.

Canada to Finland. The distance seems huge, doesn't it? Strangely, it isn't. The pointy pines, the smell of burning wood emanating from the houses warming up, the sweet and fresh air penetrating one's lungs as they are outside waiting to cool off from an extremely warm sauna, the not-so-cold weather making you enjoy a ski session, but cold enough to also make you eager to come back inside and drink warm glögi; all of this seems familiar even though it is not. Winter is quite similar in Canada, but what are not are these feelings of newness and amazement of everything.

The flora, the unknown landscapes and the different environment makes you see everything as a newborn, as if you would look at a sunset for the first time of your life. Amazement; isn't it one of the best feeling in the world? The most interesting thing about it is that we are

the only one who can still trigger it by freeing our minds from expectations. The future that unravels in front of our eyes then becomes a pleasant mixture of surprise and unexpected joy. This is exactly what happened when I stepped down from the train at Rovaniemi station, with only a bag and a guitar on my back, knowing that somehow everything would turn out right and that I would live one of the best experiences in my whole life. After two semesters in Lapland, here I am, breathing, exhaling, constantly reminding myself who I am, where I'm from and where I've been, no matter where I am in the world: this is Rovaniemi, this is my home.

I will miss these amazing friends I've met here, the beautiful scenery of the city from the watchtower of Ounasvaara, the walk over the bridge as the sun rises from the horizon, blinding you as it is being reflected by the frozen Kemijoki. "What is that feeling when you're driving away from people and they recede on the plain till you see their specks dispersing? – it's the too-huge world vaulting us, and it's good-bye. But we lean forward to the next crazy venture beneath the skies." – Jack Kerouac, On the Road

#### **UArctic members**

nding approval by Council in 2014

## Arctic Athabaskan Council

- Arctic Institute of North America
- Association of Canadian Universities for Aurora College Northern Studies
- Cape Breton University\*
- Churchill Northern Studies Centre Center for Northern Studies

Gwich'in Council International

- Makivik Corporation
- Northern Teacher Education Program Inc. Northlands College
- Royal Military College of Canada
- TELUS World of Science Edmontor Saint Mary's University
- Université du Québec à Montréal Université du Québec à Rimouski
- University College of the North
- University of Northern British Columbia

 University of Manitoba University of Alberta

- Indigenous Peoples
- GRID-Arendal Harstad University College

 Wilp Wilxo'oskwhl Nisga'a Institute Vancouver Island University University of Winnipeg

Narvik University College

**DENMARK/FAROE ISLANDS/GREENLAND** 

 Aarhus University Aalborg University

Centre of Arctic Technology (ARTEK)

lechnical University of Denmark

- Nesna University College
- Norwegian Scientific Academy for Polar

Nordisk Fond for Miljø og Udvikling

llisimatusarfik / University of Greenland

Perorsaanermik Ilinniarfik, College of Social

- Roskilde University
- · University of Southern Denmark, Dept. of **Environmental and Business Economics\***
- Brandon University
- Lakehead University
- Memorial University of Newfoundland
- Nunavut Arctic College Nunavut Sivuniksavut
- Qaujigiartiit Health Research Centre
- Royal Roads University\*

  - University of Turku

#### ICELAND

- Bifröst University
- Reykjavik University
- University Center of the Westfjords
- University of Akureyri

#### NORWAY

- GALDU Resource Centre for the Rights of
- International Centre for Reindeer
- Nord-Trøndelag University College
- Sámi University College

Diaconia University of Applied Science

of Norway

- Laurea University of Applied Sciences
- University of Eastern Finland Sámi Education Institute
- University of Lapland University of Helsinki
- University of Tampere

- Stefansson Arctic Institute

## University of Iceland

- Arran Lulesami Center
- Center for International Climate and Environmental Research - Oslo

 University of Saskatchewan University of Regina

- Norwegian University of Science and

- University of the Faroe Islands

- Lapland University of Applied Sciences Finnish Meteorological Institute\*
- Oulu University of Applied Sciences
- University of Oulu

- Arctic Portal

- Kamchatka State University of Education
- Karelian Research Centre of the Russian Academy of Sciences
- Kola Science Centre RAS
- Komi Republican Academy of State Service and Administration

Komi State Pedagogical Institute

- Maritime State University named after G.I Krasnoyarsk State Agrarian University
- Murmansk Marine Fish Industrial College
- Murmansk State Humanities University Murmansk State Technical University
- Nenets Agrarian Economic Technical School Narjan Mar Social Humanitarian College
- Nizhnevartovsk State University\* Norilsk Institute of Industry

North-Eastern Federal University

 Northern State Medical University Northern (Arctic) Federal University

- University Centre in Svalbard
- University of Bergen
- University of Nordland
- University of Stavanger University of Oslo
- University of Tromsø The Arctic University

RUSSIAN FEDERATION

- Arctic Center of Training Specialists
- Barguzinsky State Nature Biosphere Reservi Arctic State Institute of Culture and Art

and Trans-Baikal National Park\*

- Baykal State University of Economics and
- Buryat State Academy of Agriculture
- Buryat State University
- Centre for Support of Indigenous Peoples of the North / Russian Indigenous Training
- European University at St Petersburg
- Herzen State Pedagogical University of
- Higher School of Music
- Institute of the Humanities and the Siberian Branch of the Russian Academy Indigenous Peoples of the North of the
- International Institute of Business Education
- Yugra State University

- Abisko Scientific Research Station
- Luleå University of Technology
- Sámi Educational Centre

Mid Sweden University

Umeå University

- Arctic Research Consortium of the United Antioch University New England\*
- Center for Circumpolar Studies

Cold Climate Housing Research Center

- Pskov State University\*
- Saint-Petersburg University
- Skills Advancement Institute
- Siberian Federal University
- Surgut State University Surgut State Pedagogical University

NON-ARCTIC

Chinese Academy of Meteorological

Sciences (China)

University of Washington

University of Maine, Climate Change

- Tyumen State Oil and Gas University\* Taymyr College
- Ukhta State Technical University Tyumen State University
- Ural Federal University VNIIOkeangeologia
- Yamal Multidisciplinary College Yamal Polar Agroeconomic College Yakutsk Agricultural Academy

- Lund University\*
- Stockholm University
- Swedish University of Agricultural Sciences

## UNITED STATES

- States (ARCUS)
- Association for Canadian Studies in the

 Professional Specialized School No.26 Petrozavodsk State University

Consortium for Alaska Native Higher

Institute of the North

Polar Libraries Colloquy

 Ilisagvik College Dartmouth College

Scandinavian Seminar Group

University of Alaska Anchorage

University of Alaska Fairbanks

- Russian State Hydrometeorological
- Sakha Republican Teachers' Professional
- State Polar Academy Scientific Research Institute of National Schools of the Republic of Sakha (Yakutia
- Syktyvkar State University Syktyvkar Forest Institute
- Environmental Development Centre, First Institute of Oceanography, State Ministry of Environmental Protection

Durham University (UK)

Dalian Maritime University (China)\*

**Environmental Sciences (China)** Chinese Research Academy of

International Polar Foundation (Belgium) Hokkaido University (Japan)

Oceanic Administration (China)

- Korean Maritime Institute (Korea)\* Educational Studies School (Mongolia) Mongolian State University of Education
- National Marine Environmental Forecasting Center (China)
- Ocean University of China (China)
- Polar Research Institute of China (China) Second Institute of Oceanography, State
- Third Institute of Oceanography, State Oceanic Administration (China) Oceanic Administration (China)
- University of the Highlands and Islands (UK) University of Versailles Saint-Quentin-en-Yvelines, Research Centre CEARC (France)

University of Aberdeen (UK)

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