

The UArctic Magazine

SHARED VOICES

2016



UArctic



DEVELOPMENT AND ESTABLISHMENT OF A COMPETENCY CENTRE FOR ARCTIC FIELD SAFETY

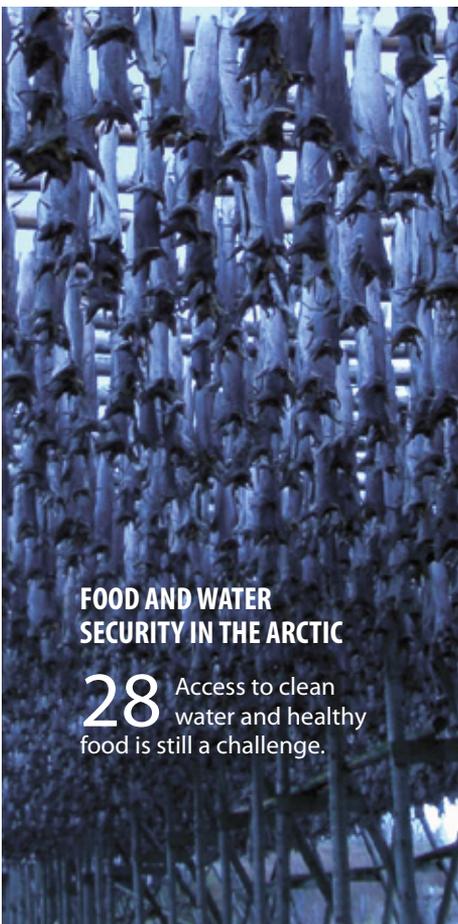
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Photo Hanne Christiansen



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Photo Arcticia Ltd



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Letter from the President

By **LARS KULLERUD**
President, UArctic

Northern peoples have, over thousands of years, managed to develop knowledge and culture with a strong emphasis on not only for surviving, but also for providing support for a good life, despite what for others appears to be a very hostile environment. Fishermen, hunters, reindeer herders, farmers, mothers and elders all have their specific knowledge carried on through generations, and also adopted to new realities and opportunities.

Research activity has grown considerably in the Arctic over the last few hundred years and has developed fantastic skills to not only survive in the field, but also to carry out important experiments and observations. The same period has given us cities, public services, and infrastructure as well as extractive industry and tourism operations that are only to some degree successfully adapted to life in the North.

It is obvious to everyone that with increased and new forms of activity it is also necessary to think both structurally and practically about how to do this in a way that does not harm the environment, the people, or the activity itself.

The Arctic Council is the mother of the Arctic Search and Rescue Agreement and the Council was also an important driver behind the Polar Code for maritime operations. These efforts by governments are essential, and will reduce risks for maritime operations. Many measures to increase our collective safety are implemented by national and regional governments. In spite of these efforts, we know that life in northern societies can be risky, with long distances, relatively low supporting infrastructure, and constrained access to key services when accidents happen.

“A broad human-based concept of northern security includes collective knowledge, efforts and regimes.”



A broad human-based concept of northern security includes collective knowledge, efforts and regimes to ensure that northern lives are protected. Social, cultural as well as physical and competence resilience is therefore essential. This includes their health, wellbeing, livelihoods, educational opportunities, languages and cultures. When doing operations in polar regions, safety is primarily about doing work in such a way that serious accidents do not happen, and if incidents happen, community members are able to support and assist the situation and one another. It can take days before help arrives even in modern times whether you are a cruise ship operator, the mayor of a community in crisis, or a research team.

Academic institutions alongside the peoples of the North are now creating a new era of Arctic security and safety competence building and networks of mutual trust and support. This issue of UArctic's Shared Voices magazine gives insight into many of the aspects of safety and security that need to be met to ensure safe and prosperous lives for northerners, the northern environment, as well as for our guests.



UARCTIC CONGRESS 2016

SEPTEMBER 12TH – 16TH
ST. PETERSBURG, RUSSIA



The inaugural UArctic Congress takes place in St. Petersburg, September 12-16, 2016. Hosted by Saint Petersburg

State University, the UArctic Congress 2016 includes a science section and brings together all UArctic governance and organization bodies for the first time. This includes meetings of the Council of UArctic, the Board of Governors, the Rectors' Forum, and Thematic Networks. The Congress thus provides an excellent platform for all UArctic members to engage with each other and promote cooperation in circumpolar science and higher education. In addition, the Congress attracts students from around the Arctic to the Student Forum, traditionally organized in conjunction with the Rectors' Forum, and introduces the new group of UArctic Student Ambassadors (term 2016-2019) who receive their training during the event.

The three last days of the Congress highlight topical Arctic issues through plenary sessions with high-level keynote speakers, and parallel sessions on an array of Arctic science, policy and education topics. The science section revolves around five issues of current interest, identified in the ICARP III (International Congress on Arctic Research Planning) report. These are vulnerability of Arctic environments; vulnerability of Arctic societies; local and traditional knowledge; building long-term human capacity; and new markets for the Arctic including trade, tourism and transportation. The invited plenary speakers represent different aspects of these themes and highlight them from the perspectives of research, science strategies and collaboration, economy and policy. In addition to the plenaries, the program is expected to include over 150 oral presentations and around one hundred posters, divided into 24 sessions that run in 4-6 parallels throughout the three-day science section.

Arctic Parliamentarians: Finding Solutions to Climate Challenges

By **KATRI KULMUNI**, Chair of Finnish Delegation to the Conference of Parliamentarians of the Arctic Region, Member of Parliament, Finland



Photo Kimmo Brandt / Parliament of Finland

The 12th Conference of Parliamentarians of the Arctic Region took place in Ulan-Ude, Russia, June 14-16, 2016. I had the honour to lead the Finnish delegation and to act as rapporteur in one of the main discussions and workshops.

The themes of the conference were both timely and important: people in a developing Arctic; Arctic cooperation in light of the Conference on Climate Change (COP 21) in Paris; and new opportunities in the Arctic region.

The most important discussion focused of course on climate change. We in the Arctic have witnessed how fast it is evolving and how far-reaching its impacts can be. We are also the first ones to experience the dramatic consequences. Climate change is a fact we cannot deny; it affects all of us whether we like it or not. We see drought increasing in some areas whereas others are becoming wetter and wetter. The living space of the whole humanity is diminishing while our population is growing. All of us can feel the climate warming.

This is why I was pleased to see that all the parliamentarians were taking this threat seriously and wanted to find solutions which could help us mitigate the negative effects. It seems that we have the will to make a difference.

However, the Arctic is not only about challenges. It is also about opportunities, especially new ones. Tourism is one example, and in Finland we have managed to attract vast numbers of people to Lapland where they can marvel the aurora borealis or the midnight sun.

“We must pass a clean and vital Arctic to our future generations.”

Another possibility lies in cold temperatures. Data centres need cooling, which we have in abundance, and different manufacturers need to see if their products work also in low temperatures. These are just a few of the possibilities that the cold itself holds.

A third example could be services related to “old possibilities” for mining and oil and gas production. We know that at least a part of these Arctic resources will be exploited, but we must make sure that it is done in a sustainable way with the least amount of harm to the environment. In this, we – the decision-makers – have a big responsibility. We have to make sure that the codes and norms can channel the production in a sustainable way.

There is even value for the silence and remoteness of the Arctic if we have the imagination to use it. City dwellers, people from unbearably hot areas – they could find the tranquillity and coolness something marvellous.

For me the Arctic is about both opportunities and challenges, but it is also about the people living there. We must pass a clean and vital Arctic to our future generations. This is the responsibility of us all: not only the parliamentarians but also the people, communities and business.

Photo Jan-Erik Paadar

TYTTI BRÄYSY

Graphic design was my first occupation as I have always been interested in drawing, but during my years in advertising I realized that I needed to start working with my hands, not just with a computer. It prompted me to start looking for different schools specialized in crafts. I had used silver a bit and found out that it was a suitable material for multiple designs. I wore a lot of silver jewellery myself and finally felt like I could express my own ideas through a metal I liked. As a result, for the next three years I re-educated myself in jewellery and gemstones at the Sámi Education Institute in Inari, Finland.

I was already familiar with the Sámi culture in the Inari area, so I wanted to learn more about indigenous cultures above the Arctic Circle. I got an opportunity to study abroad for three months through north2north, and I chose to apply to Nunavut Arctic College in Iqaluit, Canada. For some reason I also trademarked my mother’s surname Paarma at that time – to make sure it would be my company name one day. I am glad I did since my mother passed away just when I begun as an entrepreneur. The Inuit art and their use of mixed and layered metal was a big inspiration to my own style, so next I wanted to see if Siberia had something more to offer. In 2013 when I was studying wood, bone and antler crafts, I visited Taimyr College in Dudinka for three weeks. I taught them basics of metalsmithing, and in return learned skills and designs of the local cultures.

Different methods and designs work as an inspiration, but you must always find your own path. I found it from the Arctic nature, from its flora and fauna and the culture of my own area – its past and present. When I begin, it’s first inspiring to come up with an idea. Then I find out more about the subject and try to create something that is not so obvious or something that hasn’t been done before. The thrill of seeing metal turn into something totally different, and having it reborn once again in an interesting photo – it’s addictive. My work has many stages, many rewarding moments, even though it’s hard and messy as well. And a pleased customer crowns it all.

The main reason I stayed in Inari was my companion, who in summertime is a professional gold prospector in the Lemmenjoki National Park. The community of prospectors has become a big part of my life and means of living since I get some of my raw material, local gold nuggets, from them. The area is also an endless source of inspiration.

I have earned my living with my own designs and jewellery since 2013 through my company, Paarma Design. I am glad I can share my love of nature with others and make custom jewellery at the same time. And I do intend to continue learning more about the Arctic environment and its cultures...



Tourism Safety Is Improved Together

By **NIKO NIEMISALO**, Project Manager, Multidimensional Tourism Institute, Lapland University of Applied Sciences

Since the late 1990s tourism has raised its importance globally as business and leisure activity. Tourism carries with it an opportunity to act as a catalyst for economic growth and employment also in the Arctic regions. The tourism industry leans on the sensitive Arctic environment and experiences generated by an Arctic way of life. High quality and safe operations should be the hallmarks of northern tourism.

The specific features common to all destinations in the Circumpolar North are the long distances, sparse population, sensitive nature and severe climatic conditions. In Finnish Lapland, the Multidimensional Tourism Institute (MTI) has developed the Tourism Safety and Security System to mitigate these challenges. The work is implemented in close cooperation with the tourism industry, public authorities, municipalities, higher education institutions and non-governmental organizations.



E-tools for Small and Medium-sized Enterprises (SMEs): **Case of Tourism Safety Tools®**

Tourism Safety Tools® is an e-tool that helps micro and small companies to verify the statutory obligations as well as their own best practices and to document them conveniently. The focus is on the safety value chain when providing accommodation, food and beverage (F&B) and activity services. Tourism Safety Tools® gives free access to risk management and self-supervision tools.

www.tourismsafetytools.fi
*Developed with the Support of
ERDF and ESF financing*

“The tourism safety and security network model, developed in Finland, is utilized in developing safety and security throughout the whole of the Arctic region.”

(Arctic Strategy of Finland 2013)

Regional Safety and Security Cooperation: **Case of Barents Rescue 2015**

Barents Rescue exercises are organized every two years, and the participating countries are Finland, Norway, Russia and Sweden. The purpose of the exercise is to develop cross-border preparedness and to guarantee rescue cooperation in case of an emergency. During the exercise the professionals of rescue services, health care, volunteer organizations and other participants train together in challenging Arctic conditions. The participation of higher education institutions is welcome in the Barents Rescue exercises. In the Barents Rescue 2015 the Multidimensional Tourism Institute provided evaluation, research and support in parallel events like exhibitions and hosting of visitors. The Barents Rescue 2015 was successful and provided practical networking on regional, national and international level.

www.pelastustoimi.fi/br2015-en



People Coming and Going

The North as a Place of Migration

The global North, the Arctic and Subarctic, has been a place of attraction for people from elsewhere for many centuries already. Particularly in the 19th century, migration for the rich Arctic natural resources was on the agenda: fishing, fur hunting and trapping, forestry and mining.

By **HANNA SNELLMAN**, Vice Dean, Professor, Faculty of Arts, University of Helsinki and **GERTRUDE SAXINGER**, Assistant Professor, Department for Social and Cultural Anthropology, University of Vienna

In the Yukon region in Canada's North, for instance, a massive population movement from the South was triggered from 1896 onwards by the Klondike Gold Rush, especially in the region of Dawson City as the place was named by the so-called stampedeers. Over one hundred thousand men and women made their difficult and often deadly way through the mountains over to the blessed deposits of this shiny mineral. The influx of migrants had massive impacts on local social well-being and health, cultural practices and traditional ways of dwelling and movement.

At approximately the same time, another gold rush was well on its way, but that gold was green in colour. Ecologically the conditions for forest industry are the same throughout the northern coniferous zone. With time the regional biases in forestry have, however, changed as the forest sector has expanded, since it was for a very long time possible to move on to new, virgin resource areas. The native population of the new areas was not as a rule sufficiently large of doing the work required of it, so the know-how passed to the new areas by means of migration.

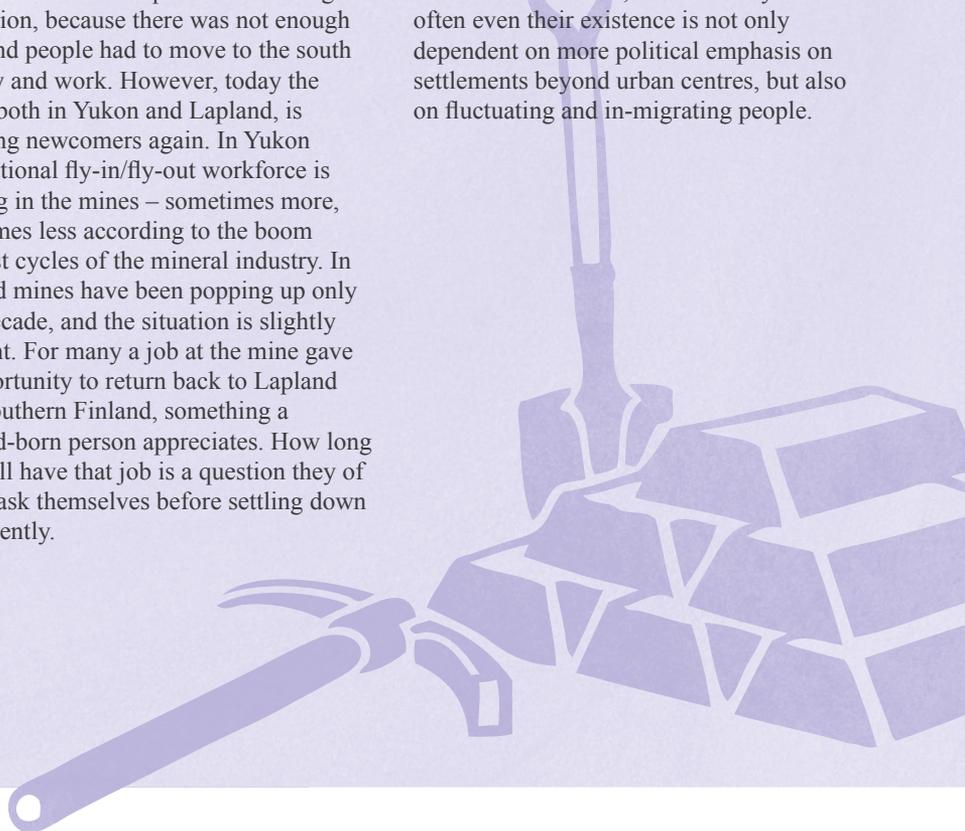
In the Nordic countries and Russia the wood-processing industry only acquired its subsequent vast proportions with the establishment of steam sawmills. The forest industries of Sweden, Finland and Russia can all thank the Norwegian timber companies for starting up the steam sawmill industry. The Norwegians operated at all levels of the forest industry, from lumberjacks to big investors, and to such an extent that some claim the development of forest industry in these countries as theirs.

What gold did to Yukon, untouched forests did to Finnish Lapland and elsewhere. The first major steam mill in the area was operated by a Norwegian company from 1873-1974 which was the first to extend its cutting and river driving north of the Arctic Circle. Neither the companies nor the state were interested in the number of men who travelled up north to work in logging sites – they were interested in the number of trees cut and floated down the rivers. Hubs such as Rovaniemi, located by the Arctic Circle, grew in the same pace with the forest industry. It has been estimated that around the year 1900 about 10,000 men went through Rovaniemi in search of work every year. Little by little, the itinerant workforce settled permanently to communities north of the Arctic Circle, usually through marriage with local girls. New homes were built, and schools and other institutions established for the growing population.

During the 20th century the upward population curve shifted downwards. For decades Yukon and Lapland were losing population, because there was not enough work and people had to move to the south to study and work. However, today the North, both in Yukon and Lapland, is attracting newcomers again. In Yukon the rotational fly-in/fly-out workforce is working in the mines – sometimes more, sometimes less according to the boom and bust cycles of the mineral industry. In Lapland mines have been popping up only for a decade, and the situation is slightly different. For many a job at the mine gave an opportunity to return back to Lapland from southern Finland, something a Lapland-born person appreciates. How long they will have that job is a question they of course ask themselves before settling down permanently.

“In the global North coming and going is a common phenomenon.”

Such historical and recent cases show that in the global North coming and going is a common phenomenon. Today, people even from far away places like Africa, the Middle East, Southeast Asia or the Balkans come to the Arctic. They enrich local cultures and bring new economic ideas. They often also secure the existence of little schools and other social services in remote communities. Security for small remote communities, their viability and often even their existence is not only dependent on more political emphasis on settlements beyond urban centres, but also on fluctuating and in-migrating people.



MARJOLAINE ROUX

Bergen, Norway, it is 11pm. I've just arrived at my new home, and I do not have my luggage, still in London. It is dark and I do not know what to expect from this adventure. There are other students a bit nervous as well. After a small chat with them, I have a sleeping bag, a pillow and a toothbrush. I am surrounded by strangers ready to help me whatever my nationality, mother tongue and background are. I realize the reason why I am here is to meet kind, lovely and funny people.

Norwegians accepted exchange students on the first day. They helped us a lot to integrate ourselves by proposing millions of activities. We often ate tacos on Friday, and we also started running up hills. Actually, it is a lie when I say running; it was mostly walking for me. Bergen is surrounded by mountains and sea. We could sail on Monday, climb on Tuesday, hike during the weekend, play volleyball and do many other sports – just name it. I even skied on a glacier in August! Norway is a paradise for active people and nature lovers. I am from Canada so I'm used to snowy days, but what I liked the most about Norway is that we could go hiking and camping everywhere. You do not always need to be careful about whether the land is private or not. As a citizen you feel free to explore your country. You can easily disconnect from work and stress. The landscape is just amazing, and I could never forget the beauty of the fjords and lakes.

For those who might be skeptical about the weather: yes, it was rainy, but we realized quite fast that rain should not stop you from doing amazing activities. My first camping trip was on top of a mountain in Voss, where there was still snow. We were supposed to be just my friend and I, but we met students on the train and decided to hike all together. I did not sleep at all, because it was really cold and everything was wet, but I keep good memories and close friends from that trip.

I will always remember the meals we shared. We often cooked together. Even if our flats were surprisingly small, we managed to bring joy in one place. My neighbors were the people with whom I spent most of the time and many nights awake. Now I am back in Canada doing my Master's in hydrogeology, and daydreaming about going back to Norway or visiting my friends around the world. We shared a home, our fears, our discoveries, tents, meals and more. Before going to Norway I did not believe that I could find a big new family, but I did!

I strongly encourage students to go to Arctic countries just to discover the beauty of the landscape and outdoor sports. Please bring waterproof boots and a warm coat with you!





International Security MBA

Tailored Safety and Security

The new Security Master of Business Administration (sMBA) is currently under development, organized by a wide consortium of educational establishments in the area of security. Laurea University of Applied Sciences' flexible sMBA is planned for a person interested in security management, with the ambition to improve leadership and managerial skills. It will also offer separate modules for experts in order to enhance land and maritime skills of those seeking careers in the safety and security sector in Arctic conditions.

The Security MBA program is designed to provide students with a wide understanding of different key areas of safety and security. Students can select from programs and tracks including

General Safety and Security, Arctic Safety and Security or Crisis Management. The program consists of subjects such as safety, special environment, international security and operations and leadership. It covers management and security topics from various perspectives in module-based learning: leadership, personal development, managing people, managing processes and systems, managing security resources, strategy, reputation and responsibility, international security, and leadership and change. The learning process enables Security MBA students to immediately apply their newly-learned knowledge in their work environment, and the flexible modular structure allows tailoring the content to specific learning targets.

By **JARMO HEINONEN**
Principal Lecturer, Laurea
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Growth from the North
Education and Competence
as Key Input Factors

By ANNE HUSEBEKK
Rector, UiT The Arctic University of Norway

The Circumpolar North is a region rich in resources: oil, gas and minerals which are important to a growing world economy; renewable energy which must be developed

further in order to address the challenges that climate change poses; and food from both land and sea which is sorely needed to sustain a growing global population. The most important resource of all is the people who have the North as their home, with their history, culture and knowledge linked to the land and the ocean.

Resources can, however, be both a blessing and a curse. The history of the North is full of examples of outside drivers forcing a development with a single-minded focus on rapid resource extraction without due concern for the environmental and societal impact of the activities. Building local competence and capacity is key to preventing a repetition of these errors in the future.

Research and education in an academic setting – while at the same time respecting and incorporating traditional knowledge – are key components in this capacity building effort. Only if we succeed in this will we as residents in the North be able to play a natural and key role in regional growth and, by extension, in a sustainable national and international development.

“Providing education programs locally and building research capacity in the North is the only sustainable model in the long run.”

In addition to securing us northerners a seat at the table when decisions that concern the North are being made, capacity building is vital if we are to succeed in developing local communities where people can live good lives today, and to secure a safe future for coming generations. This means that we need to train teachers, health professionals, artists and engineers with a profound understanding of the North. Looking at the history of my own university, UiT The Arctic University of Norway, providing education programs locally and building research capacity in the North is the only sustainable model in the long run. Building these capacities outside the region and then “exporting” them north is a poor and inefficient alternative.

Statistics from nordregio.se for the Nordic countries illustrate my point. Municipalities that host higher education institutions are the municipalities with the highest levels of higher education, and they are the municipalities with the highest levels of R&D investments. In other words, building capacity creates communities which attract industry and businesses.

Given this underlying premise, it is a cause for concern that in many parts of the Circumpolar North higher education institutions are few and far between. Addressing this shortcoming is a national responsibility. Only when the national infrastructure in this field is in place can international collaborative efforts like the University of the Arctic be truly successful. In the meantime, we as individual members of UArctic, and the network as a whole, must continue to work towards fulfilling the UArctic vision: An Empowered North – With Shared Voices.



HUMAN SECURITY IN THE ARCTIC

Socioemotional Problems as Risks

By ANNA REETTA RÖNKÄ, Doctoral Student, University of Oulu

Traditionally, security has been defined in terms of state and military security. Recently the concept of human security has developed which has a background in normative languages of human needs, human rights and human development. Human security relocates the attention of security from states to individuals, and to social lives in communities. Human security has several dimensions ranging from economic, environmental and food to health and personal security. Protecting these, and the right to live in freedom and with dignity, are seen as the center of true security.

One of the most fundamental human needs and a prerequisite for good life and communal well-being is to have meaningful, healthy and respectful social relations with others. We are social beings, and working

and living together with others has always been essential for human survival. Young people see social and family relationships as central security resources in empirical studies. Friends and reciprocal social networks are also buffers against many health and well-being problems. However, not everyone has friends or any other meaningful social relations, which is a great risk factor for the experience of loneliness.

Loneliness is an involuntary, subjective and painful experience associated with several negative socioemotional and health problems. Circumpolar areas and the Arctic represent an especially fragile context in relation to it. In these areas population density is typically low; young people might not have any peers in their age group in the small communities. Urbanization has further emptied many villages, yet relocation may also increase loneliness as establishing new social relations might prove to be difficult.





I have examined the experience of loneliness and its associations with different socioemotional, contextual, situational and health and well-being factors from childhood to young adulthood among those born in the two northernmost provinces of Finland: Lapland and Oulu. Loneliness in adolescence was associated with not having close friends, being a victim of bullying, depressive mood, unhappiness and sadness, poor self-rated health, dissatisfaction with life and deliberate self-harming behavior. In addition, amongst girls only, loneliness was associated with dislike of school and living in rural areas.

These adverse health and well-being factors are acute risks in all Arctic nations. Enhancing human security and sustaining a good quality of life and viable future is more challenging in small communities, where youth experience problems such as loneliness, a sense of non-belongingness and hopelessness. It is essential to pay attention to socioemotional health and community well-being in an individual and relational level, and to advocate for healthy, respectful relationships. These are among the central factors in ensuring vitality, social sustainability and human security in the Arctic.



ANDRIAN VLAKHOV

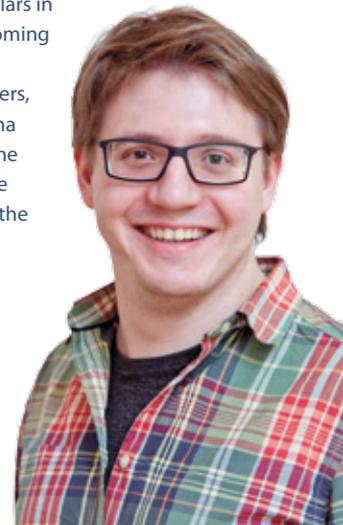
While I don't live in the Arctic myself, instead enjoying the fabulous architecture and cultural heritage of imperial St. Petersburg from my home window, I've always felt a strong attachment to the North and places located far from the "civilized" large-city world – that's where my obsession with the Arctic has its roots.

My original background lies in linguistics; I've been studying sociolinguistic issues of the post-Soviet Russia. However, as it often happens, during my fieldwork in the Kola Peninsula I suddenly realized that the social context of life in the North is of much greater interest to me than dull socio-linguistic variations, and I took up the complex task of changing my focus area. In 2013 I got my Master's degree in Social and Cultural Anthropology from the European University at St. Petersburg, focusing on the collective identity building in the Russian part of the Barents Region. Now I continue with my PhD research on Arctic extractive industries and the communities they create, focusing on the Russian mining community in the Svalbard archipelago.

The unique status of Svalbard (the archipelago is a part of Norway, but citizens of virtually any state can live and work there) has been attracting researchers for a long time. I'm focusing on the small Russian mining town of Barentsburg, with a population of 500. The Barentsburg mine has been producing coal since the 1930s, serving also as a political instrument in Russian-Norwegian relations. The crisis of the coal industry has destroyed the fancy picture of the "sanctuary of the 1970s" and put the community on the verge of fundamental changes. The new economic model for the town and the very existence of the mine are the most pressing issues. I'm studying the structure of the local community, the processes of redevelopment of Barentsburg, and the community response to these changes. My research brings to light different approaches to the urban sustainability in the Arctic, while I argue that the societal and economical model of Barentsburg is unique for the Arctic and should therefore be described from different points of view; I'm trying to take into account both Western and Russian approaches to the concept of urban sustainability.

In 2016, when I started preparing the final draft of my thesis and decided to do that outside St. Petersburg, a great opportunity emerged: to spend a couple of months in Rovaniemi, Finland. I heartily embraced that, as I had been to the town many times and also admire the local university, especially its Arctic Centre with the great library and amazing people. I spent two months as a part of the Sustainable Development Research Group, contributing to their work with my experience and gaining new knowledge for my own research. I got a wonderful opportunity to meet the leading scholars in my area and get things right in my own head. My upcoming thesis was enriched by new ideas gained from highly productive discussions with the Arctic Centre researchers, especially Monica Tennberg, Florian Stammer and Anna Stammer-Gossmann. I hope that this cooperation in the Arctic research community continues afterwards, as we all share common perceptions and understandings of the region.

Andrian is a UArctic Board of Governors Student Representative and also a UArctic Student Ambassador (2014-2017).



The Eight *Ujarait* (Rocks) Model: Supporting Inuit Adolescent Mental Health

By **GWEN HEALEY**, Executive and Scientific Director, Qaujigiartiit Health Research Centre, Assistant Professor, Northern Ontario School of Medicine and **CEPORAH MEARNS**, Research Associate, Qaujigiartiit Health Research Centre

Avatittinik Kamatsiarniq
(Stewards of the Land):
Connecting Knowledge and
Skills on the Land

A strengths-based approach based on Inuit knowledge and ways of knowing promotes wellness and positive protective and resilience factors among Inuit youth. The challenges facing Inuit youth in Nunavut are well-documented, as are the rates of attempted suicide and death by suicide in our young population. Through a community-led process, which included literature review and collaborative community engagement, a series of protective factors were identified and expanded upon in a model for promoting positive mental health and wellness among Inuit youth, which are described in this article.

In the 1950s and 60s, Inuit in Nunavut experienced a series of events which had a significant and detrimental impact on families, including a formal relocation and resettlement program, residential schools, and medical evacuations for tuberculosis. These events, occurring at roughly the same time, separated children from their parents, and siblings and spouses from each other. The events had a very profound impact on the mental health of our families and

communities. Today, mental health and wellness is one of the most pressing issues identified by community members and organizations in Nunavut. In the 2007-08 Inuit Health Survey, 48% of respondents reported having thought seriously about suicide at some point in their life, and 14% of respondents reported recent suicidal ideation. Rates of attempted suicide in Nunavut are extremely high. Among Nunavut adults, younger adults reported more recent suicide attempts than older people, and reports of suicidal thoughts and suicide attempts were more common among women than men. The determinants of suicide are embedded in a multitude of societal factors, such as poverty, housing and education, as well as individual factors, such as childhood physical or sexual abuse, exposure to violence, and intergenerational trauma related to the previously mentioned historical events.

In spite of the challenges, there are strengths and capacities in our communities and in our way of life which support protective and resilience factors. We know the pathways to wellness which existed before settlement, and we need to revitalize that to support the youngest members of our communities to live happy, productive lives. We need to

reclaim them and build on them to ensure the next generation is not confronted with suicide in the same way we have been. Pathways to wellness include our relationships with each other; kinship and extended family bonds; relationships with the land; celebration of the arts and music; the power and meaning of story in our lives; rich Inuit knowledge and philosophical perspectives shared by our elders; and learning and skill-building pathways which celebrate the unique gifts and strengths of every child.

Understanding
Informed Choices and
Peer Pressure

It is upon these pathways that the Qaujigiartiit Health Research Centre set out to develop a model for youth camps designed to respond to the needs of Nunavut youth during a critical stage of adolescent development. It was grounded in research, best practice, and Inuit terminology and philosophy. *Ujaraq* is the Inuktitut word

The evidence-based modules or *Ujarait* include the following:

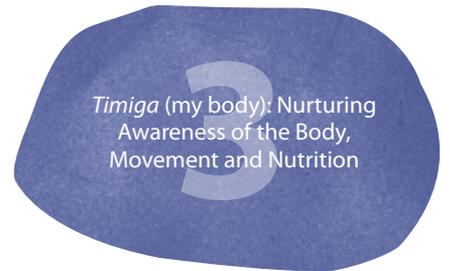


for rock. The Eight *Ujarait* (Rocks) Model highlights eight core constructs which symbolize the formation of a solid stone foundation of skills and knowledge upon which young people build their lives. The eight *Ujarait* are visualized in the form of a ring, which is a common formation to come across on the land in the Arctic, where the stones have been used to hold down the base of a tent.

The *Ujarait* highlight the promotion of positive social interactions and relationships to others, opportunities for self-reflection, and cultural skill-building, and explores the relationship between healthy minds and bodies. They are delivered in a positive, respectful, strengths-based and solution-oriented space. The model also emulates the concept of *Pilimmaksarniq*, which is the development of skills through effort and practice – a critical concept in understanding Inuit ways of knowing. The *Nunalivut* module directs youth toward the collective

addressing of a community concern by contributing time and energy to an activity, such as visiting elders or baking and giving food to someone in need. The *Timiga* module focuses on the body, physical activity and nutrition, including the practice of Inuit games and traditional activities such as hunting and harvesting, which naturally involve body movement. The model fosters physical, mental, emotional and spiritual wellness and supports a holistic perspective of wellness among youth. Parents of youth participants have reported an improvement in behaviour and attitude, strong cultural pride, greater confidence in identity, and improved family and community relationships.

The Eight *Ujarait* model is one example of an evidence-based, community-driven intervention, which is based on the pathways to we know are essential for strengthening protective and resilience factors among youth.



We recognize the knowledge sharing, story-telling, guidance, expertise and collaboration of many community members and stakeholders who contributed to the development of this work and who will continue to be vital in its implementation. Qujannamiik! Thank you! Funding for this work was provided by the Public Health Agency of Canada.



SANDRINE PAPAGEORGES

Hi! Or *hej!* My name is Sandrine, I come from the eastern part of Québec in Canada, and I am about to finish my Bachelor in Geography at the University of Québec at Rimouski. A year ago, I went on a north2north exchange and studied at Umeå University in Sweden. During the semester, I followed two courses in geoecology, taught in Umeå and at the Abisko Research Station in the very north of Sweden where I stayed for three months. What a beautiful experience it was!

In many ways the courses reminded me of my home university: small groups in which you get to know almost everyone, high quality of teaching, interactive and also diverse classes – field excursions, lectures, labs, seminars and group works. I found the course structures to be very balanced and well planned. First, courses were given one at a time, which enables students to focus on the subject they are learning instead of being split between many courses simultaneously. Second, the schedule is built so that you have lots of free time to do whatever you want aside from studying. This is gorgeous!

Most exchange students who study at Umeå University tend to go to IKSU (one of Europe's largest training facilities), have a lot of parties, pre-parties, pre-pre-parties, and so on. All of it is great! But, for my part, I arrived in Sweden with snowshoes and winter camping gear, and decided to explore Sweden's backcountry and small villages. Having a bike enabled me to explore around Umeå (there are tons of bike trails even in the middle of the winter), from Brännland to the river delta. Also, using the maps that cover the whole country, I went hiking at Tavelsjön, Skuleskogen National Park, Kungsleden, Norway, and more. I saw tons of aurora borealis, hiked with reindeers, ate tasty fresh fish, swam in the Arctic Ocean and, most of all, met amazing people, some of whom I became good friends with. If that interests you, don't be too scared by all the Swedes who tell you you're going to die because you're going "hiking in the cold". Be prepared (maps, transport, gear and security), and ask people for information.

Living in another northern country isn't just like travelling anywhere in the world. It enables us to immerse ourselves in a place that deals with similar realities to ours, and thus feel automatically closer to their history, issues, culture, sadness and happiness. This exchange also showed me that every place has its good and its bad sides. While I found Sweden very inspiring for their innovations and care for the environment, I also found this country to have so many social barriers that it was often difficult to enjoy good, simple and spontaneous things of life. But we can always grow from these experiences: they bring us to care more for the people and things we value in life, and we go back home with new ideas and perspectives to contribute to our choices.

Open your mind, heart and eyes, and you'll get the most out of it!



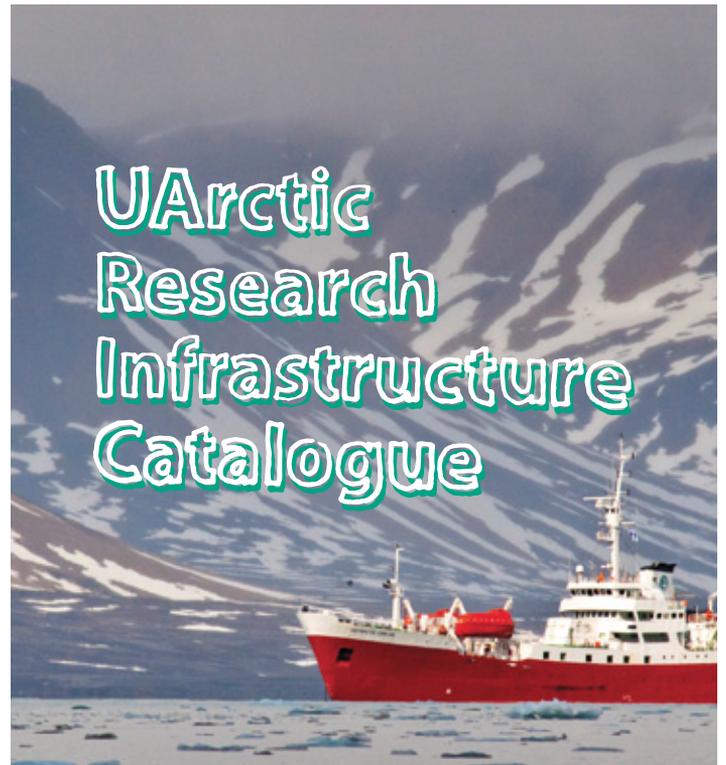
UArctic Research Infrastructure Catalogue

Connecting UArctic Members and the Research Community Worldwide

Adding to the services provided on the UArctic website, the UArctic Research Infrastructure Catalogue was launched in March 2016. The Infrastructure Catalogue is a free online database allowing worldwide search and identification of research infrastructures and facilities located at and operated by UArctic member institutions. It helps increase the awareness about the research infrastructures providing services to external users, and also helps facilitate new collaboration possibilities and efficient use of research infrastructures.

The infrastructures include a large range of facilities such as research centres and institutes, research stations and vessels, observatories and monitoring sites, laboratories, online collections and databases, and special library collections. The number of entries is increasing each day, and visits have more than doubled since the launch.

www.uarctic.org/infrastructures



UArctic Annual Report for 2015

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: Greater Research Cooperation and Increased Collaboration

U

Arctic's 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.

In 2015 planning began in earnest for the first ever UArctic Congress, which is held in St. Petersburg, Russia in September 2016. The initial call for session proposals launched in late 2015, with themes taken from the International Conference on Arctic Research Planning (ICARP III) process. The call produced an excellent response and resulted in a high quality scientific program and other events. The Congress is the first time that all UArctic bodies – Rectors' Forum, Board of Governors, Council and Thematic Networks – meet together in the same location.

With financial support from the Norwegian Ministry of Foreign Affairs, UArctic helped mark the occasion of twenty years of the Arctic Council by developing a special edition of our Shared Voices magazine. This special issue looks back at the Arctic Council's past successes and where it is headed. The project culminated at a special event at Arctic Frontiers in January 2016. See uarctic.org/sharedvoices.

In response to increased interest from our members in greater research cooperation within the network, we developed new tools and initiatives to better serve members and individual researchers. One such example is the new Research Infrastructure Catalogue – an online database of our members' infrastructures and facilities. Additionally, a Research Analytics Task Force was developed and implemented, to better track our members collective research outputs. UArctic also participated in the Arctic Council's Scientific Cooperation Task Force and process for ICARP.



See back cover for full list of members



Map / © University of the Arctic 2016, Veli-Pekka Laitinen, Puisto Design & Advertising and Hugo Ahlertius, Nordpil

UArctic's Student Ambassador Program is a select group of student leaders who represent UArctic and their home institutions, and promote the network and its activities among their peers both online and in high profile events. The first group of Student Ambassadors met in a four-day training workshop in Tromsø, Norway in connection with the Arctic Frontiers conference in 2015. The workshop included briefings on UArctic, training sessions and meetings with a large number of global leaders, including Prince Albert II of Monaco, then Prime Minister of Finland Alexander Stubb, and US Special Representative for the Arctic Admiral Robert J. Papp, Jr.

Major UArctic meetings in 2015 included a very memorable Council meeting hosted by Buryat State University in Ulan-Ude, Buryatia, Russia, which was followed by an international scientific conference. UArctic's leadership met during the Rectors' Forum at Umeå University, Sweden for strategic talks on various issues including strengthening academic mobility and a framework for cooperation in conducting Arctic research.

Our Thematic Networks expanded with six new additions in 2015: Arctic Telecommunications and Networking, Working in the Arctic, Model Arctic Council, Northern Nursing Education, Teacher Education for Social Justice and Diversity in Education, and UArctic World Ensemble. These networks have already been very active; an example is the Model Arctic Council event organized at the Arctic Science Summit Week in Fairbanks in March 2016. The first Arctic Massive Open Online Course (MOOC) was also launched through a collaboration of UArctic partner institutions.

UArctic's engagement with non-Arctic countries increased in 2015, demonstrated by the growth in UArctic membership from outside the Arctic countries, particularly from China. There are now a total of 22 non-Arctic member institutions. Concrete initiatives with non-Arctic partners such as the Korea Arctic Academy, organized by UArctic and Korea Maritime Institute, demonstrate the value of this cooperation.

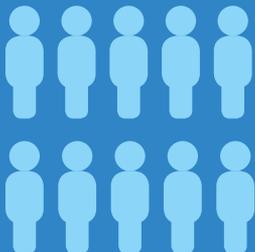
UArctic continues to draw strong leaders from its member institutions. In 2015 we welcomed Gerald Anderson as our Vice-President Indigenous, and Sheila Downer as Vice-President Finance, Development and Engagement, both from Memorial University of Newfoundland.

Thematic Networks & Institutes

	Year established	Bachelor's/ Master's courses field and summer schools	PhD courses, field and summer schools	Joint graduate programs with enrollment	Joint graduate programs under development	Research projects	Publications/ scientific articles (peer reviewed)	Intl. conferences, workshops	Art exhibitions	Other outreach (events, online)	Mobility activities
Arctic Engineering	2008	-	-	-	-	-	-	-	-		-
Arctic Extractive Industries	2012	-		-	-	-	-		-		-
Arctic Fisheries and Aquaculture	2010		-	-		-	-		-	-	-
Arctic Geology	2012	-		-	-	-	-	-	-		-
Arctic Law	2011	-	-	-	-				-		-
Arctic Sustainable Arts & Design	2011		-								
Arctic Telecommunications and Networking	2015	-	-	-	-	-	-	-	-		-
Commercialization of Science and Technology for the North	2014		-	-	-	-	-		-		-
Communicating Arctic Research	2012		-	-	-		-	-	-		-
Digital Media and Media Arts	2008	-	-	-	-	-	-	-	-	-	-
Distance Education and e-Learning	2008	-	-	-	-	-	-		-	-	-
Energy in New Time	2008			-	-				-	-	
Environmental Impact Assessment of Industry Contaminated Areas	2010	-	-	-	-	-	-	-	-		-
Environmental Training and Education for Sustainable Development of the Arctic	2011	-	-	-	-						-
Geopolitics and Security	2009			-	-					-	-
Health and Well-being in the Arctic	2005	-			-	-	-		-		-
Local and Regional Development in the North	2006	-	-	-	-	-			-	-	-
Managing Small and Medium Sized Enterprises in the North	2011	-	-	-	-		-		-	-	
Model Arctic Council	2015	-	-	-	-	-	-	-	-		-
Natural Hazards	2013	-	-	-	-	-	-		-	-	-
Northern Food Security	2009		-					-	-	-	-
Northern Governance	2007		-	-	-				-	-	
Northern Nursing Education	2015		-	-	-	-	-	-	-		
Northern Tourism	2008	-	-					-	-		
Permafrost	2013				-	-			-		-
Polar Ice, Climate and Land Dynamics (PICD)	2012	-	-	-	-	-	-	-	-	-	-
Social Work	2006		-	-		-	-	-	-	-	-
Teacher Education for Social Justice and Diversity in Education	2015	-	-	-	-	-	-	-	-		
UArctic EALÁT Institute	2009	-	-	-	-	-		-	-		-
UArctic Institute for Arctic Policy	2008	-	-	-	-	-			-	-	-
UArctic Institute: The Northern Research Forum	2012	-	-	-	-	-	-		-	-	-
UArctic World Ensemble	2015	-	-	-	-	-	-	-	-	-	-
Verdde	2005	-	-	-	-	-	-		-	-	-
Working in the Arctic	2015	-	-	-	-	-	-	-	-		-
World Images of Indigenous Peoples of the North	2006	-	-	-	-		-				

Thematic Networks pending approval from Council in 2016: Arctic Economic Science, Arctic Safety and Security, Coastal Communities (Environment and Transdisciplinary Research and Education), Language Documentation and Language Technologies for Circumpolar Region, Sustainable Arctic Resources and Social Responsibility, Sustainable Production and Foraging of Natural Products in the North

At a Glance Statistics 2015



21

Student Ambassadors

www.uarctic.org



843

Courses and programs in Study Catalogue

544

Courses

299

Programs

90

Entries in Research Infrastructure Catalogue

503

UARctic news articles

244

Research funding opportunity announcements

600 181

Total website pageviews

141 885

Member profile pageviews

20 078

Outbound link visits to member websites

1 312

Subscribers to email newsletter

1 030

Facebook likes

3 354

Twitter followers

Membership

177 Total

125 Higher education institutions

52 Other organizations

1.5m Students

250k Staff

CANADA

34 members

RUSSIA

49 members

NON-ARCTIC

22 members

UNITED STATES

17 members

NORWAY

15 members

FINLAND

13 members

KINGDOM OF DENMARK

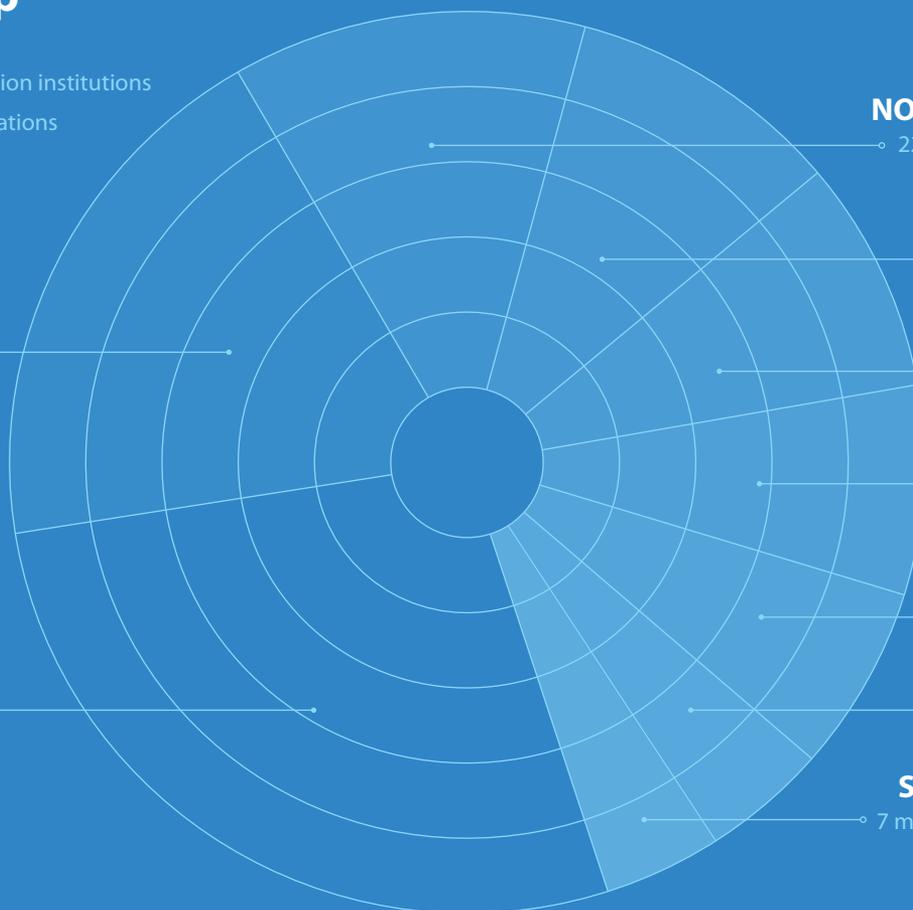
12 members

ICELAND

8 members

SWEDEN

7 members



POSTGRADUATE SUMMER SCHOOLS AND NEW PARTNERSHIPS

By **LILL RASTAD BJØRST**

Associate Professor, Aalborg University

For the past two years, the Centre for Innovation and Research in Culture and Learning in the Arctic (CIRCLA) at Aalborg University in Denmark has been the project manager of two interdisciplinary postgraduate summer schools of humanities and social sciences: the first in Sisimiut/Greenland in 2014 on Comprehensive Sustainable Development in Arctic Societies, and the second in Aalborg in 2015 on Change and Continuation in the Arctic.

The summer schools gathered participants from Canada, Greenland, the UK, Sweden, Finland, Alaska, Denmark, Iceland, the Faroe Islands and Russia. The aim was to assist young researchers in exchanging experiences and ideas with each other and together with established experts in relevant fields of study. We wanted to enlighten aspiring researchers about some of the challenges and opportunities that the Arctic is facing, and how practice-based research can be anchored in real-life, social, economic, cultural and political situations and requirements. Also, it was important to inspire the participants to think sustainability in comprehensive terms, as more than just a matter of environmental importance.

One of the attending students from 2015 wrote: "This was an amazing experience for me. I made lasting academic connections and came away feeling much more confident about my doctoral research. I learned so much about other approaches and what others are doing, and that was invaluable. This summer school also has resulted in my decision to continue focusing my research in Arctic contexts and to search out partnerships with other Arctic researchers." The icebreaker reception on the first day was a harbour sightseeing in Limfjorden by boat to gaze at Aalborg from the seaside, which also helped participants share ideas. "I especially liked the fact that there was a lot of time for conversations with other participants and researchers in between presentations and in the evenings," one of the students mentioned.

The summer schools were jointly organised by CIRCLA, Ilisimatusarfik/University of Greenland, Arctic Technology Centre (ARTEK, Technical University of Denmark), Arctic Research Center (Aarhus University), and UArctic. The summer schools were kindly sponsored by the Danish Agency for Science and Innovation.

Indigenous Peoples and Extractive Industries *in the Russian Arctic and Beyond*



By **AYTALINA IVANOVA**, Vice Dean, Faculty of Law, North Eastern Federal University and **FLORIAN STAMMLER**, Co-lead of the UArctic Thematic Network on Arctic Extractive Industries, Research Professor, Arctic Centre, University of Lapland

Recently the world has seen a certain slowdown in the run for Arctic non-renewable resources with the sharp decline of oil prices. However, this does not mean that local and indigenous peoples are no longer confronted with industry advancing to ever remoter areas that continue to be important arenas for unique local Arctic human-environment relations. Ongoing and recently published research by members of the UArctic Thematic Network on Arctic Extractive Industries and the Extractive Industries working group of the International Arctic Social Sciences Association (IASSA) has highlighted the challenges associated with these developments where relations between local people, companies and authorities become even more complex.

Information on these issues from the Russian Arctic is not becoming easier to access in politically difficult times. It is even more important to continue with long-standing research partnerships and joint publications to make sure that evidence can be used locally as well as internationally for advancing the case of research and also for making industrial development as beneficial as possible locally. In one of the publications we developed a general framework to analyze under which conditions relations among parties in an Arctic industry project turn into a conflict, into cooperation, or into mutual ignorance.

Using cases from Kamchatka and the Nenets Autonomous Okrug in Russia, we show that with a thorough analysis of five key factors we are able to tell which character industry-state-local people's relations can assume.

These factors are:

1. The importance of the resource and peoples' relation to it (ie, how high the stakes are)
2. Land rights and other regulatory regimes
3. Power relations that determine how regulatory regimes are (or are not) implemented
4. The presence, absence and quality of agreements between an industrial operator and local people
5. The agency of civil society

Checking across cases for these five factors can make research in this field better comparable across cases and countries, as well as potentially help interested parties to handle their relationships better. A cooperative nature of such relationships is a good deal for all parties, but first and foremost it enables local and indigenous peoples to continue a livelihood based on their unique culturally embedded use of natural bioresources in the Arctic (ie, animals and plants), which in turn contributes to maintaining biocultural diversity on our planet.



More information

<https://arcticanthropology.org/2016/03/08/arctic-voices-expectations-narratives-and-the-realities-of-living-with-extractive-industries-new-publication/>
<http://www.sciencedirect.com/science/journal/2214790X/3/1>



FOOD AND WATER SECURITY IN THE ARCTIC

By **ARJA RAUTIO**, Lead of the UArctic Thematic Network on Health and Well-being in the Arctic, Research Professor, University of Oulu and **DAVID NATCHER**, Professor, Department of Agriculture and Resource Economics, University of Saskatchewan

Clean water and healthy food are basic elements of good health and quality of life for circumpolar populations. Nevertheless, recent studies indicate elevated rates of household food insecurity in many places in the Arctic, eg among indigenous peoples in Chukotka, Russia and Nunavut, Canada. Community remoteness, costs and northern latitudes often restrict access to fresh and nutritious market foods.

For more than twenty years food safety has been a major focus of Arctic research, and the levels of environmental contaminants and toxic metals (mainly mercury) in wild species like fish, marine mammals, reindeer, caribou and moose have been regularly monitored by the Arctic Monitoring Assessment Programme (AMAP). This has resulted in published health reports, most recently in 2015. There have also been several research projects focusing on the risks of exposure to environmental contaminants, toxic metals and radioactivity on human health within Arctic populations (see Kolarctic ENPI, ArcRisk, INNUENDO, CLEAR).

“Food and water insecurity is not only limited to health and safety concerns.”

During the Swedish chairmanship of the Arctic Council, a circumpolar project on food and water security was initiated and a number of indicators were introduced. Much of this research is being conducted through the efforts of One Health and Water and Sanitation (WASH) of the Arctic

Council’s Sustainable Development Working Group (SDWG). Many urban regions of the Arctic are challenged by poor water quality and access to clean water, for instance cities in the Murmansk region that lack sanitary protection zones for water sources, water processing and water disinfection. Many water, air and food-borne diseases have already increased in the Arctic Russia and Fennoscandia.

Food and water insecurity is not only limited to health and safety concerns, but also relates to access to reliable and culturally acceptable food sources. Building on the success of One Health, in February 2016 the Arctic Council’s SDWG endorsed a complementary project that will examine the potential for increased production and added value of wild foods from the Arctic, with the overarching aim of improving food security and enhancing the social and economic conditions of Arctic communities. By focusing on biological (climate change), commercial (commercial resources, infrastructure, and resource and industry policy), cultural (food traditions and organization of food chains) and market conditions (local, national and international), this project is setting out to identify potential pathways for Arctic food production and distribution. The aim is to identify conditions for increased production, both to improve food security in northern regions, and to increase the added value of food originating in the Arctic for southern markets. Together these projects are aimed at contributing to more sustainable and healthy food systems in the Arctic.

There is an urgent need to monitor measurable quantitative indicators of food and water security in the Arctic over time, especially when climate and environmental changes together with increased industrial activities, in particular mining and shipping, will be big challenges for human health. It is important to make adaptation strategies based on the understanding the determinants of food and water security and cultural factors.

The list of references is available from Arja Rautio.

Safety in the Arctic:

INSURER'S POINT OF VIEW

By GARD AS





The role of an insurer is to insure the risks that its assureds encounter in their trading activities. These risks are based on an evaluation of the probability that the insurer will have to pay a claim. Gard has insured a number of Arctic voyages in recent years, which have been performed by a small group of well-prepared, experienced operators with only minor incidents. This trade remains quite limited involving mainly specialised operations such as offshore activities, fisheries, specialised cruises and research. Insurance challenges will arise when less experienced players enter the market. If Arctic trade is to grow it needs to be made as safe as possible; the emergency response infrastructure needs to be developed, and resource sharing and cooperation between states need to improve.

The proportionate regulation of standards and ships in Arctic trade is long overdue. The forthcoming Polar Code is a major step forward, but work must continue to develop its scope. Rough and rapidly changing ice and weather conditions, imprecise positioning and inexact sea charts, the Arctic area's remoteness, lack of safe shelter, and lack of response infrastructure and means of communication are major challenges. More ice-free open waters will

probably not reduce the overall risks as more inexperienced operators are likely to use higher speeds in the area.

The problems which a ship experiences in an emergency in the Arctic are likely to be significant and challenging, and it can take considerable time to get appropriate response personnel and equipment in place in the event of a casualty. The complex logistics can mean that a minor incident can easily develop into a major casualty, and because of the ecological sensitivity of Arctic waters this can also lead to significant environmental damage.

Predictable response times and costs for casualties are important for insurance purposes. Insurers would like to see further cooperation, coordination and mutual assistance between the Arctic states. The levels of response personnel and equipment in place will never compare to those along traditional shipping routes. Collaboration is therefore even more important to ensure that the resources available in the Arctic are used as efficiently as possible and permissions to act are expedited. In addition, and perhaps key to safety in the Arctic, is the level of preparation carried out by shipowners. The depth of risk assessment, level of knowledge, equipment on board and competence of the crew for Arctic conditions are critical to reduce risk.

For more than 100 years, Gard AS has been insuring the global maritime industries for their whole range of risks. Today, it is the largest Protection and Indemnity (P&I) Club and the second largest marine insurer in the world.

HOW THE POLAR CODE PROTECTS THE ENVIRONMENT



OIL



DISCHARGES

Discharge into the sea of oil or oily mixtures from any ship is prohibited



STRUCTURE

Double hull and double bottom required for all oil tankers, including those less than 5,000dwt (A/B ships constructed on or after 1 January 2017)



HEAVY FUEL OIL

Heavy fuel oil is banned in the Antarctic (under MARPOL). Ships are encouraged not to use or carry heavy fuel oil in the Arctic



LUBRICANTS

Consider using non-toxic biodegradable lubricants or water-based systems in lubricated components outside the underwater hull with direct seawater interfaces

BACKGROUND INFO



THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS (POLAR CODE) WILL ENTER INTO FORCE ON 1 JANUARY 2017



IT APPLIES TO SHIPS OPERATING IN ARCTIC AND ANTARCTIC WATERS: ADDITIONAL TO EXISTING MARPOL REQUIREMENTS



IT PROVIDES FOR SAFE SHIP OPERATION AND PROTECTS THE ENVIRONMENT BY ADDRESSING THE UNIQUE RISKS PRESENT IN POLAR WATERS BUT NOT COVERED BY OTHER INSTRUMENTS

SEWAGE



DISCHARGES I

No discharge of sewage in polar waters allowed (except under specific circumstances)



TREATMENT PLANTS

Discharge is permitted if ship has an approved sewage treatment plant, and discharges treated sewage as far as practicable from the nearest land, any fast ice, ice shelf, or areas of specified ice concentration



DISCHARGES II

- Sewage not comminuted or disinfected can be discharged at a distance of more than 12nm from any ice shelf or fast ice
- Comminuted and disinfected sewage can be discharged more than 3nm from any ice shelf or fast ice



INVASIVE SPECIES

INVASIVE AQUATIC SPECIES

Measures to be taken to minimize the risk of invasive aquatic species through ships' ballast water and biofouling

GARBAGE



PLASTICS

All disposal of plastics prohibited (under MARPOL)



FOOD WASTES I

Discharge of food wastes onto the ice is prohibited



FOOD WASTES II

Food wastes which have been comminuted or ground (no greater than 25mm) can be discharged only when ship is not less than 12nm from the nearest land, nearest ice shelf, or nearest fast ice



ANIMAL CARCASSES

Discharge of animal carcasses is prohibited



CARGO RESIDUES

Cargo residues, cleaning agents or additives in hold washing water may only be discharged if: they are not harmful to the marine environment; both departure and destination ports are within Arctic waters; and there are no adequate reception facilities at those ports. The same requirements apply to Antarctic area under MARPOL

DEFINITIONS



SHIP CATEGORIES

Three categories of ship designed to operate in polar waters in:

- A) at least medium first-year ice
- B) at least thin first-year ice
- C) open waters/ice conditions less severe than A and B



FAST ICE: Sea ice which forms and remains fast along the coast, where it is attached to the shore, to an ice wall, to an ice front, between shoals or grounded icebergs



ICE SHELF: A floating ice sheet of considerable thickness showing 2 to 50m or more above sea-level, attached to the coast

CHEMICALS



DISCHARGES

Discharge of noxious liquid substances (NLS) or mixtures containing NLS is prohibited in polar waters



Maritime Emergency Preparedness and International Cooperation in the Arctic

By **ODD JARL BORCH**, Professor, Nord University and
ENSIEH ROUD, Research Coordinator, Nord University

The commercial activity in the maritime Arctic represents a multiplex set of activity types. The activities in the Arctic include intra- and inter-regional transportation, the search for and exploitation of petroleum and mineral resources, fisheries and cruise tourism. Limited infrastructure, low temperatures with ice and icing, polar lows and the polar night challenge maritime operations in this region. The present risk and vulnerability related to life, the environment and values might create a challenge and a need for better emergency preparedness.

The MARPART project emphasizes maritime partnerships on emergency preparedness and includes around fifteen universities and research institutions in all the Arctic countries. Within the project, the focus has been on the maritime risk factors and institutional barriers for preparedness partnership. The project has revealed the risk factors, institutional barriers and managerial challenges of cross-border preparedness partnerships in the Arctic. We elaborate on the responsibility of the governments for preparedness as relates to safety, security and environmental protection, and the need for enhanced measures to respond to composite challenges. This includes SAR, oil spill recovery, firefighting and salvage, and actions against terror

or other forms of destructive action. To increase both effectiveness and efficiency within the preparedness system, we are in need of management tools for coordination and control, making optimal use of the joint resources of several institutions both within and between countries. The project covers the capacity, the competence and the organizational design of the institutions responsible for task force management.

The research partners within the project have initiated a Thematic Network on Arctic Safety and Security within the University of the Arctic. We hope that this network will represent a permanent platform for research cooperation, exchange of competence and joint educational programs for safety and security in the Arctic.

*The MARPART project as a platform for research
partnership within safety and security in the Arctic*

PIRTA PÄKKILÄ

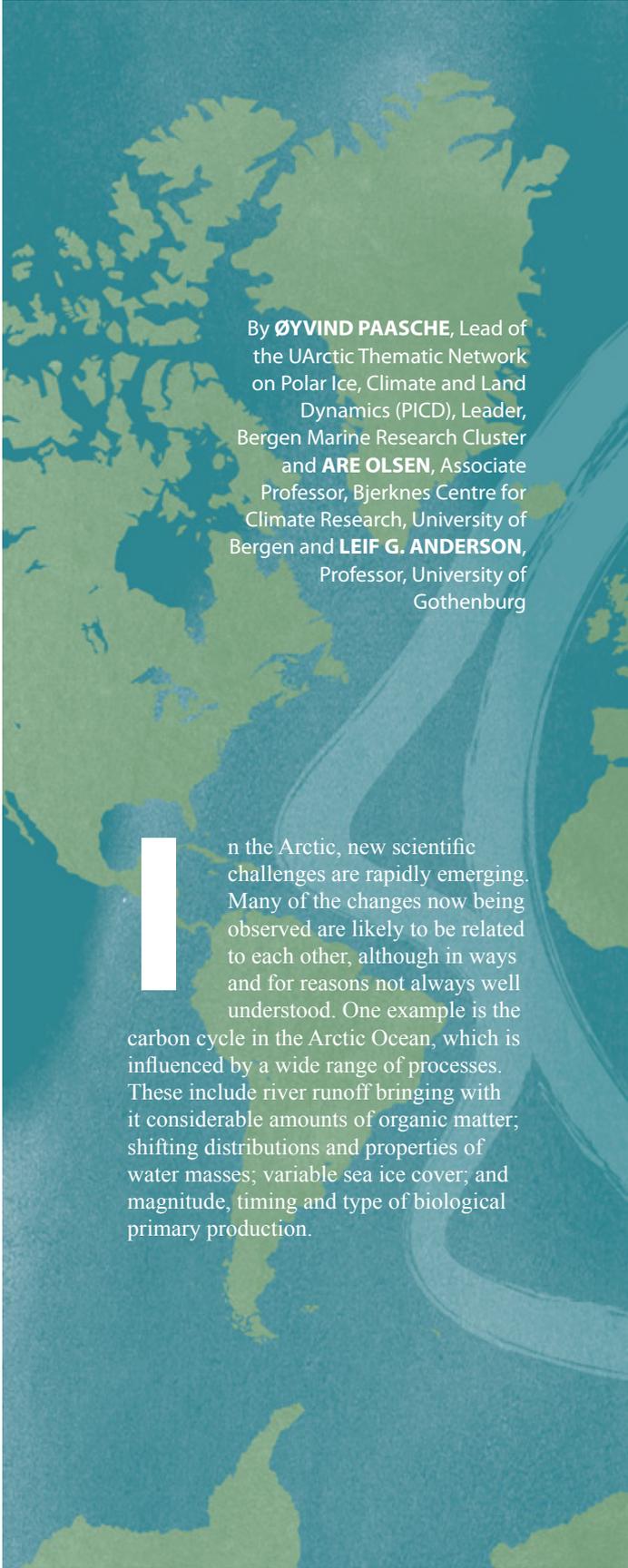
My dream had always been to travel to North America and to live and experience the culture and nature that it has to offer. I was also looking for a direction for my studies in political science at the University of Turku in Finland. I've always been interested in regional development through social and economic policies, and coming from the north of Finland myself (from Oulu to be more precise), I became interested in Arctic studies after learning about the north2north program.

I applied and was accepted to go to Saskatoon in Canada for the spring semester of 2015. I had never heard of a place called Saskatoon before in my life, but my mind was set on going. And I must say that really was one of the best decisions of my life. I found my studies at the University of Saskatchewan quite demanding and time consuming, but on the other hand extremely rewarding. I took courses in Canadian and American politics, northern governance and economics of the environment, which together gave me a really good foundation in Arctic policies. I especially enjoyed the seminar-like course on northern governance where we had a small but diverse group of students from all over the northern world. This course really gave me new perspectives and insights to the challenges the North faces but also to the possibilities that it holds.

My free time in Saskatoon was more limited than I expected. Even so, I made some really great friendships during my exchange, mostly with other exchange students, but also with locals that I met in classes and through the international students' organization Axis. We went on an unforgettable road trip to the Rocky Mountains, Edmonton and Calgary and also for a cabin weekend in northern Saskatchewan. All in all, everyday life in Saskatoon wasn't that different from Finland because the climate and the culture are quite similar.

My time in Saskatoon has definitely helped me in my professional life. Right after completing my exchange period in Canada, I did an internship at the Finnish Ministry of Foreign Affairs at the Unit for Northern Europe. Our unit was responsible for Finland's participation in Arctic cooperation so it gave me a chance to put the theories I learned in Canada into practice. I firmly believe that my studies in Arctic issues in Canada were the deciding factor in getting the internship. Currently I'm in Brussels doing another internship for the North and East Finland EU Office. Arctic issues are definitely one of our main focus points, but instead of the national perspective we view them both from the EU and regional point of view.

I definitely want to continue learning and studying Arctic issues and one day make this my career in some way. I would highly recommend studying Arctic issues, as it is an up-and-coming branch of academic studies, and is already on the spotlight of political interest due to a changing world, highlighting especially the Arctic economic possibilities in a whole new way.



By **ØYVIND PAASCHE**, Lead of the UArctic Thematic Network on Polar Ice, Climate and Land Dynamics (PICD), Leader, Bergen Marine Research Cluster and **ARE OLSEN**, Associate Professor, Bjerknes Centre for Climate Research, University of Bergen and **LEIF G. ANDERSON**, Professor, University of Gothenburg

In the Arctic, new scientific challenges are rapidly emerging. Many of the changes now being observed are likely to be related to each other, although in ways and for reasons not always well understood. One example is the carbon cycle in the Arctic Ocean, which is influenced by a wide range of processes. These include river runoff bringing with it considerable amounts of organic matter; shifting distributions and properties of water masses; variable sea ice cover; and magnitude, timing and type of biological primary production.



Synoptic Arctic Survey

A Fundament for Future Arctic Research

A thorough study of the carbon chemistry of the Arctic waters requires a comprehensive approach. All basins and key oceanographic gateways – five in number – must be studied, preferably in the same year and season because of the large interannual and seasonal variations. The same goes for other components of the marine system. By doing so, and only so, the loops can be closed and the first baseline established. Studies that undertake such challenges are referred to as having a synoptic approach, a concept well known in science meaning a comprehensive overview of conditions in a certain region at a given time.

In order to get that, and given the harsh nature of the Arctic Ocean, any synoptic survey requires collaboration across nations and scientific disciplines. We are now in

the process of developing such an effort, the Synoptic Arctic Survey (SAS). SAS is a bottom-up initiative that through enhanced international collaboration and coordination seeks to increase our shared capacity for understanding the changes that currently are unfolding in the Arctic Ocean and their potentially far-reaching consequences. The synoptic nature of the new data collected through SAS will allow for unprecedented assessments of the state of the Arctic Ocean; detection of the impact of climate change on its ecosystem, and water masses and carbon chemistry, and also provide a baseline to track future climate change. In the many processes that are leading up to SAS we will engage and inform researchers and policymakers. This will be accomplished by launching the first draft of the Science Plan for community feedback and engagement.

Northern Ties

By **LESLIE EARLE**, Public Relations and
Communications Officer, Fisheries
and Marine Institute, Memorial
University of Newfoundland





Newfoundland and Labrador and the North have much in common: fishing, isolation, a strong sense of community and cold, harsh environments. However, that is not all that connects the two. More than twenty years ago, the Fisheries and Marine Institute (MI) of Memorial University was approached to teach a Fishing Masters course in Iqaluit, Nunavut – one that would equip residents with the skills necessary to obtain meaningful employment on ocean-going vessels. After nearly two decades the relationship between the Nunavut Arctic College, Nunavut Fisheries and Marine Training Consortium and MI continues to grow, with further educational opportunities offered each year, and with a new focus on research.

“We’ve built a strong relationship with our training partners in the North since that first course offering,” says Gerald Anderson, director of Development and Engagement with the Fisheries and Marine Institute of Memorial University and UArctic Vice-President Indigenous. “Together we’ve been able to open the doors to a number of educational and career opportunities, and I believe these efforts have laid a solid foundation for the work that we continue to do, particularly around research for new and developing sectors.”

While the Fishing Masters is still part of the course offering, the training has expanded to include bridge watch, radio operation, small vessel operator, basic safety and survival craft training and marine basic first aid, just to name a few – courses that would not otherwise be available to participants in their home territory.

As the economy of the North diversifies, so does MI’s focus on training and research in the area. Today, the Institute is expanding its offering to include new training and research opportunities, particularly as it relates to the interest in an oil and gas sector in the Canadian Arctic. “We’ve come a long way, but there is still much to be done,” continues Anderson. “It is an exciting time for the North, and MI is proud to be a continued partner – both in equipping students with important skills and helping to lay the groundwork for emerging fields that these students will one day be part of.”



Development and Establishment of a Competency Centre for Arctic Field Safety

By **HANNE CHRISTIANSEN**, Professor, Departmental Leader, University Centre in Svalbard

At the University Centre in Svalbard (UNIS) all staff and students receive practical field safety training before they start doing fieldwork. This is an important part of ensuring a good and safe working environment, and also the best conditions for doing advanced fieldwork in the high Arctic environment of Svalbard. Knowing about this approach to field safety in education and science, UNIS has seen a demand from several national and international institutions and networks for also obtaining the special basic safety course that we run. Therefore we have developed a three-year project to develop and establish a competency centre for Arctic field safety at UNIS in Longyearbyen, in short the Arctic Safety Centre. The project is funded by the Norwegian Foreign Ministry's Arctic 2030 programme (2015-2018).



“Practical field safety is an important part of ensuring a good and safe working environment.”

UNIS is establishing the Arctic Safety Centre in close cooperation with national and international partners. Several Svalbard partners varying from local authorities to private companies are involved, such as the Norwegian University of Science and Technology and SINTEF from Norway. UArctic, INTERACT (International Network for Terrestrial Research and Monitoring in the Arctic) and FARO (Forum of Arctic Research Operators) are the key international partners.

The Arctic Safety Centre activities will focus on safety and emergency preparedness associated with activities in a potentially hazardous and vulnerable natural environment of the Arctic. The Centre will teach and do research and dissemination with the objective of acquiring the best possible expertise for the wider population and also for visiting researchers and other visitors to Svalbard and the rest of the Arctic. Furthermore, the Centre will develop and disseminate knowledge and technology that will enable operations and transportation in the Arctic to be implemented in a safe and environmentally sound manner.

At the kick-off workshop in spring 2016, we began the work to find the best way to use the unique combination of advanced natural science observations and practical field safety training from Svalbard with Norwegian and international knowledge of field safety research and theoretical education. This combination would help build a new, unique way of developing future Arctic field safety to become even better and accessible for all the inhabitants of the Arctic and its many visitors. We also hope to be able to develop a new scientific department at UNIS, building on all our existing departments, which will largely contribute to raising the Arctic profile of UNIS.

TIINA TAKALA

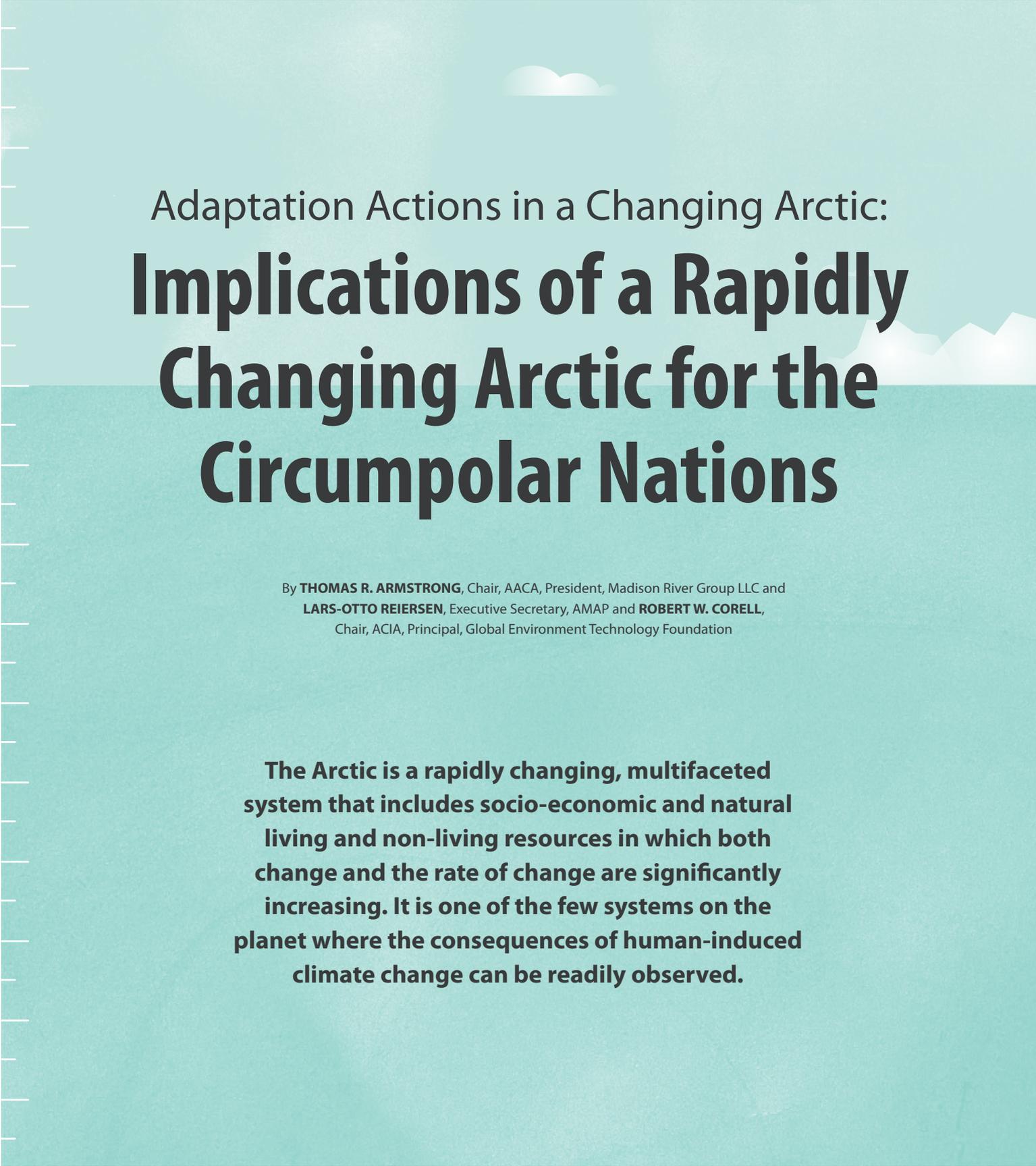
You know the saying “you don’t see what’s right in front of you?” I think it’s true. Having been born and raised in the northernmost province of Finland, Lapland, where there are more reindeer than people I had never really paid much attention to the term Arctic. Sure, I was used to the Lappish lifestyle of spending days in the wilderness, hunting, fishing and reindeer herding. Since a little girl I have always been very curious about the world and wanted to travel as far and as much as I can. That has resulted in not only having various stamps in my passport, but also gaining many unforgettable memories and experiences, like fishing piranhas in the Amazon, serving cocktails in a bar in the Caribbean, diving with turtles, doing voluntary work with iguanas – and the list just goes on. Most importantly, those trips and years spent abroad have given me perspective. But to truly understand the uniqueness of the Arctic region I needed to travel all the way to South Korea.

Last year I was selected to be the representative of the University of Lapland in the 1st Korea Arctic Academy which was held in August 2015 in Busan, South Korea. The Korea Arctic Academy was a one-week program comprised of special lectures, seminars and field trips to enhance the in-depth understanding of Arctic issues. I learned a lot about Korea’s polar research, maritime industry and Arctic policy. While I was preparing my presentation for the Academy about Arctic tourism, I realized that it was what I wanted to specialize in.

In Korea I learned to see the Arctic from a very different angle. I started to understand the opportunities the region offers but also the vulnerability it has. It really was an eye-opening experience, and because of it I am now finishing my Bachelor’s thesis about Arctic tourism, more precisely about the clean air tourism in Lapland. The aim of my study is to find out what kind of meanings Chinese tourists give to the clean air of Lapland. I am also interested in knowing how they define Arctic purity, and if air quality can be a motive for travelling.

My research and the experiences I have had during the past year have taught me how fragile and precious the Arctic is. I needed to go far to see close. And sometimes even we, the inhabitants of this region, might not understand the value of it. As one of the Chinese tourists I interviewed said, the Arctic region is a “paradise, a snow paradise.”





Adaptation Actions in a Changing Arctic:

Implications of a Rapidly Changing Arctic for the Circumpolar Nations

By **THOMAS R. ARMSTRONG**, Chair, AACA, President, Madison River Group LLC and
LARS-OTTO REIERSEN, Executive Secretary, AMAP and **ROBERT W. CORELL**,
Chair, ACIA, Principal, Global Environment Technology Foundation

The Arctic is a rapidly changing, multifaceted system that includes socio-economic and natural living and non-living resources in which both change and the rate of change are significantly increasing. It is one of the few systems on the planet where the consequences of human-induced climate change can be readily observed.

In order to combat and ameliorate impending changes, the focus of our collective efforts now must shift to enhancing resilience in both natural and human systems (ie, communities). While developing and deploying a long-term plan for reducing carbon pollution to and from the atmosphere, in the short term we also need to prepare for and adapt to the inevitable impacts and effects of the one stressor that directly impacts all of the Arctic and also exacerbates the other stressors: climate change.

It is in the area of adaptation where a wide array of potential actions to combat climate change exist at all scales and at all levels of decision-making. Thus, the focus of the Arctic Council's Adaptation Actions in a Changing Arctic (AACA) project is on identifying and assessing change drivers, including climate. AACA provides a robust, pan-Arctic set of more detailed regional scientific assessments focused on understanding the types and causes of related changes, their impacts and effects generated within or impacting the Arctic, as well as future projections, options and scenarios aimed at understanding future changes. This scientific information, along with other forms of traditional and local knowledge, is then integrated into a more comprehensive knowledge base that is of use to a multitude of decision-makers. This knowledge base is used by decision-makers at all scales for supporting present and future adaptation actions. It is these actions that will promote increased resilience, health and welfare of the the Arctic and its diverse and vital communities as well as its living and non-living resources.

Ultimately, AACA will also include adaptive management components, communication and education elements, and various forms of decision support. These will allow decision performance evaluation, educational and social outreach and more effective decision-making in a sustained manner, within and across all of the Arctic's communities that are already or will be affected by impending forms of change.

KRISTIN WEIS

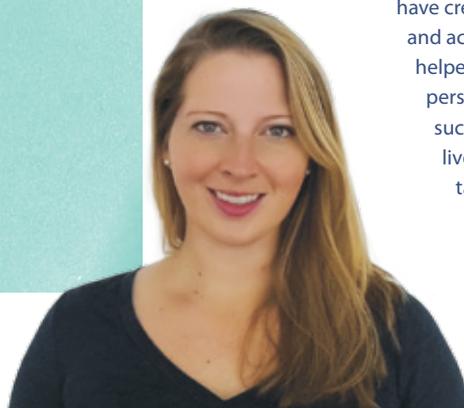
As a sustainable development and peacebuilding professional, I work to improve how we use and conserve the natural environment. I hold a BA in International Affairs and a Minor in Fine Arts from the George Washington University in Washington, DC, after which I contributed to the public, private and non-profit sectors.

Currently, I'm earning a Master of Resource Management from the University of Akureyri through the Coastal and Marine Management (CMM) Master's Program at the University Centre of the Westfjords. My academic focus is on socio-economic and socio-ecological resilience, environmental peacebuilding, and human mobility issues such as climate refugee policy and coastal tourism trends. My thesis research is on the role of tourism in socio-economic development in Dominica, a beautiful and dynamic Caribbean island state. My research interests also include preventative responses for potential international stability threats related to climate change and the physical world around us.

The relationship between humans and the coastal environment is undervalued in international policy, and this is something that I hope to change. The CMM program focuses on this relationship, exploring humanity's use and conservation of coastal and marine environments. This unique focus was exactly what I was looking for in a graduate program, and the program's small size, diverse faculty, outdoorsy culture and unique location all contributed to my decision to attend.

Iceland is beautiful, of course, and the Westfjords region holds its own remote beauty. The light changes so dramatically here from day to day – and from season to season – that Ísafjörður's sunlight and scenery still surprise me. The beauty of the Westfjords is also found in its storms, where the wind is loud, the snow and ice are wild, and walking to class can be a ski-goggles-required adventure. As often as possible, I sea kayak, cross-country ski, and relax with friends in the local hot pots. There are many outdoors activities to try, from snowshoeing to surfing. When visiting, one must take full advantage of good weather as we never know when it will come again!

All of the CMM graduate students contribute diverse expertise and refreshing, open minds that have created valuable conversations, friendships and academic analysis. Such moments have helped shape and challenge many of my own perspectives, leading me to redefine personal success and professional goals. It is a gift to live in this beautiful fjord, to learn with such talented peers, and to gain new coastal and marine management expertise from local and visiting experts.





Re-engaging Canada in the Circumpolar World

By **JOËL PLOUFFE**, Research Fellow, Canadian Global Affairs Institute (CGAI), Co-Managing Editor, Arctic Yearbook

“If you really want a foreign policy for the Arctic, all Canadians will have to consider that part of the world as one of strategic importance to Canada.”

- Paul Painchaud, The Standing Committee on Foreign Affairs and International Trade, 7th Report, April 1997

Canada’s initial engagement with the circumpolar world dates back to the early 1990s when Ottawa and other Arctic capitals jointly created the Arctic Environmental Protection Strategy (AEPS) that eventually became the Arctic Council, established twenty years ago by the Ottawa Declaration.

The Canadian foreign policy approach in the early post-Cold War years brought significant contributions to Arctic governance, such as drawing in the new Russian Federation into a now twenty-year cycle of uninterrupted cooperation on environmental security; engaging the United States into Arctic politics through the Arctic Council; and most of all ensuring that indigenous peoples across the region were politically represented in circumpolar affairs.

It was Canada’s initial intent in the 1990s to “shape the nature and thrust of circumpolar affairs, and Canada’s central place therein.”

But its ambition to lead in Arctic politics has nevertheless continued to decline over the last two decades, while paradoxically the need for regional engagement by Canada has continued to increase throughout the 2000s.

Climate change and globalization have transformed Arctic politics.

New actors have appeared on the regional scene. Non-Arctic states are increasingly eager to engage in circumpolar affairs; China, France, Germany, the EU and others are pushing their own Arctic interests that defy traditional regional geopolitics. Also, non-traditional security and safety challenges are rapidly making their way to Arctic states’ and sub-national agendas that require long-term planning and updated and innovative policies for a region undergoing multiple transformations.

As we commemorate the 20th anniversary of the Ottawa Declaration and the establishment of the Arctic Council, the current Trudeau government should commence a foreign policy shift that would

place the Arctic region as a core area of interest and influence for Canadians. The goal is to ultimately seek innovative ways to gain benefits to northerners and contribute to regional stability in a rapidly changing Arctic environment.

A refined approach could be focused on these three pillars. First, a revamped Canadian Arctic foreign policy should encourage national bottom-up collaborations with provinces, territories and indigenous organizations as a way to address multi-level national-international governance issues. Second, it is important for Canada to reinforce its relations with its Nordic, Russian and American neighbors on sustainable economic development. Finally, as hinted by the current Canadian foreign policy minister, Stéphane Dion, the Arctic is an ideal area and setting to reset Ottawa's bilateral economic and security relations with Russia.

Canada has a window of opportunity to reshape the Arctic dimension to its foreign policy through increased cooperation and dialogue with traditional and non-traditional Arctic actors. This approach not only makes sense for Canada as an Arctic nation and power, it also has been and will continue to be beneficial to northerners and Canada as a whole. Through innovative policies that foster sustainable economic development, innovation, science and collaborative measures and thus enhance the effectiveness and efficiency of regional stewardship, Ottawa's redesigned Arctic policy can help shape the nature and thrust of circumpolar affairs in interesting times, and Canada's indispensable role in Arctic governance.

CHLOÉ POTIER

Just a year ago, I was an engineering student in France who barely knew anything about Greenland. I had just been accepted at the Technical University of Denmark (DTU) to pursue an MSc in Civil Engineering and expected to spend the following two years in Copenhagen. And yet here I am today, studying in Greenland's second largest town for five months and enjoying life above the Arctic Circle.

When I moved to Copenhagen in September 2015, I did not know about the Arctic Semester, offered for the first time in spring 2016 by ARTEK, the Arctic Technology Centre at DTU. But one day I heard about this educational program taking place in Sisimiut, Greenland, from February to June and offering courses related to engineering in Arctic regions. It sounded like an incredible opportunity to satisfy my thirst for adventure, and I decided to apply.

And just like that, a few months later, began my journey to Sisimiut. With around 5,500 inhabitants, this town is situated 75 km north of the Arctic Circle. I am now halfway through the semester, and it has been a great experience so far. I have learned a lot about the Arctic regions, the challenges specific to building activities in these areas, environmental engineering in cold climates, the Greenlandic history and society... The hands-on approach of the courses allowed me to learn a lot about Sisimiut's infrastructure as well. I got to meet people from various countries and backgrounds in my class, and as group work is an important part of our formation during the Arctic Semester, working together with them has been really enriching!

During my time in Sisimiut, not only did I get the opportunity to attend exciting classes – I also discovered a brand new way of life. Needless to say that life in the North is very different from the typical French lifestyle. In the past few weeks, I have enjoyed the northern lights, hiked and skied in the breathtaking nature surrounding Sisimiut, observed icebergs, and experienced dog-sledding. Moreover, in my attempt to make the most of my time up here I participated in the Arctic Circle Race, also known as world's toughest cross-country ski race. Just two months after I skied for the first time, I covered a distance of 100 km in three days along with three of my adventurous classmates. It was one of the hardest, most intense, and yet fabulous experiences of my life. I will never forget how I struggled to climb up the steepest hills, but I will mostly remember the rewarding and spectacular landscapes I saw, and the feeling of accomplishment that overwhelmed me when I finally crossed the finish line together with my friend under the applause of Sisimiut's inhabitants.

In a few words, I am more than glad that I had a chance to participate in the Arctic Semester and I would definitely recommend it to other students! I love Greenland, or as Greenlanders say: *Kalaallit Nunaat nuan!*



UArctic members

*Pending approval by Council in 2016

CANADA

Arctic Athabaskan Council
Arctic Institute of North America
Association of Canadian Universities for Northern Studies
Aurora College
Brandon University
Cape Breton University
Center for Northern Studies / Centre d'Études Nordiques
Gwich'in Council International
Lakehead University
Makivik Corporation
Memorial University of Newfoundland
Northlands College
Nunavut Arctic College
Nunavut Sivuniksavut
Polar Libraries Colloquy
Quajigiartit Health Research Centre
Royal Military College of Canada
Royal Roads University
Saint Mary's University
TELUS World of Science - Edmonton
Trent University*
Université de Québec à Montréal
Université du Québec à Rimouski
Université Laval
University College of the North
University of Alberta
University of Manitoba
University of Northern British Columbia
University of Regina
University of Saskatchewan
University of Winnipeg
Vancouver Island University
Wilp Wilxo'oskwhl Nisga'a Institute
Yukon College

DENMARK/FAROE ISLANDS/GREENLAND

Aalborg University
Aarhus University
Arctic Technology Centre - Technical University of Denmark
Copenhagen Business School
Department of Environmental and Business Economics - University of Southern Denmark
Greenland Institute of Natural Resources
Ilisimatusarfik / University of Greenland
Nordisk Fond for Miljø og Udvikling
Perorsaanermik Ilinniartfik / College of Social Education
Roskilde University
University of Copenhagen
University of the Faroe Islands

FINLAND

Diaconia University of Applied Sciences
Finnish Institute of Occupational Health
Finnish Meteorological Institute
Lapland University of Applied Sciences
Laurea University of Applied Sciences
Oulu University of Applied Sciences
Sámi Education Institute
University of Eastern Finland
University of Helsinki
University of Lapland
University of Oulu
University of Tampere
University of Turku

ICELAND

Arctic Portal
Bifröst University
Iceland Academy of the Arts
Reykjavik University
Stefansson Arctic Institute
University Center of the Westfjords
University of Akureyri
University of Iceland

NORWAY

Arran Lulesami Center
Center for International Climate and Environmental Research
Galdu Resource Centre for the Rights of Indigenous Peoples
GRID-Arendal
International Centre for Reindeer Husbandry
Nord University
Norwegian Scientific Academy for Polar Research
Norwegian University of Science and Technology
Sámi University College
UiT The Arctic University of Norway
University Centre in Svalbard
University of Agder
University of Bergen
University of Oslo
University of Stavanger

RUSSIAN FEDERATION

Arctic College for Peoples of the North
Arctic State Institute of Culture and Art
Baikal State University of Economics and Law (Filial)
Barguzinsky State Nature Biosphere Reserve and Zabaikalsky National Park
Buryat State Agriculture Academy
Buryat State University
Centre for Support of Indigenous Peoples of the North - Russian Indigenous Training Centre
Churapchinsky State Institute for Physical Education and Sports*

EUROPEAN UNIVERSITY AT ST PETERSBURG

Far Eastern Federal University
Far Eastern State Transportation University
Herzen State Pedagogical University of Russia
Industrial University of Tyumen
Institute of the Humanities and the Indigenous Peoples of the North - Siberian Branch RAS
Karelian Research Centre of the Russian Academy of Sciences
Komi Republican Academy of State Service and Administration
Luzin Institute for Economic Studies - Kola Science Centre RAS
Murmansk Arctic State University
Murmansk State Technical University
Narjān-Mar Social Humanitarian College
National Research Tomsk State University
Nenets Agrarian Economic Technical School
Nizhnevartovsk State University
Norilsk State Industrial Institute
North-Eastern Federal University
Northern (Arctic) Federal University
Northern National College
Northern State Medical University
Petrozavodsk State University
Project Management Centre
Pskov State University
RAIPON
Russian State Hydrometeorological University
Saint-Petersburg State University
Sakha Republican Teachers' Professional Skills Advancement Institute
Scientific Research Institute of National Schools of the Republic of Sakha (Yakutia)
Siberian Federal University
Surgut State Pedagogical University
Surgut State University
Syktyvkar Forest Institute
Syktyvkar State University
Taymyr College
Tyumen State University
Ukhta State Technical University
Ural Federal University
Yakutsk State Agricultural Academy
Yamal Multidisciplinary College
Yamal Polar Agro-economic Technical School
Yugra State University

SWEDEN

Abisko Scientific Research Station
Luleå University of Technology
Lund University
Mid Sweden University
Sámi Educational Centre
Stockholm University
Umeå University

UNITED STATES

Antioch University New England
Arctic Research Consortium of the United States
Association for Canadian Studies in the United States
Center for Circumpolar Studies
Climate Change Institute - University of Maine
Cold Climate Housing Research Centre
Dartmouth College
Florida SouthWestern State College
Ilisavik College
Institute of the North
Scandinavian Seminar Group
University of Alaska Anchorage
University of Alaska Fairbanks
University of Colorado*
University of Nebraska-Lincoln*
University of North Dakota*
University of Washington

NON-ARCTIC

Austrian Polar Research Institute (Austria)
Chinese Academy of Meteorological Sciences (China)
Chinese Research Academy of Environmental Sciences (China)
Dalian Maritime University (China)
Durham University (UK)
Educational Studies School - Mongolian National University of Education (Mongolia)
Environmental Development Centre - Ministry of Environmental Protection (China)
First Institute of Oceanography, State Oceanic Administration (China)
Hokkaido University (Japan)
International Polar Foundation (Belgium)
Korea Maritime Institute (Korea)
Korea Polar Research Institute (Korea)*
Nanjing University of Information Science and Technology (China)*
National Marine Environmental Forecasting Center (China)
Ocean University of China (China)
Polar Research Institute of China (China)
Research Centre CEARC - University of Versailles Saint-Quentin-en-Yvelines (France)
Second Institute of Oceanography, State Oceanic Administration (China)
Third Institute of Oceanography, State Oceanic Administration (China)
University of Aberdeen (UK)
University of Hamburg (Germany)*
University of the Highlands and Islands (UK)



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