

The UArctic Magazine

Shared Voices

2024



UArctic



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THE UARCTIC MAGAZINE
Shared Voices 2024

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Finnish icebreaker Sisu.
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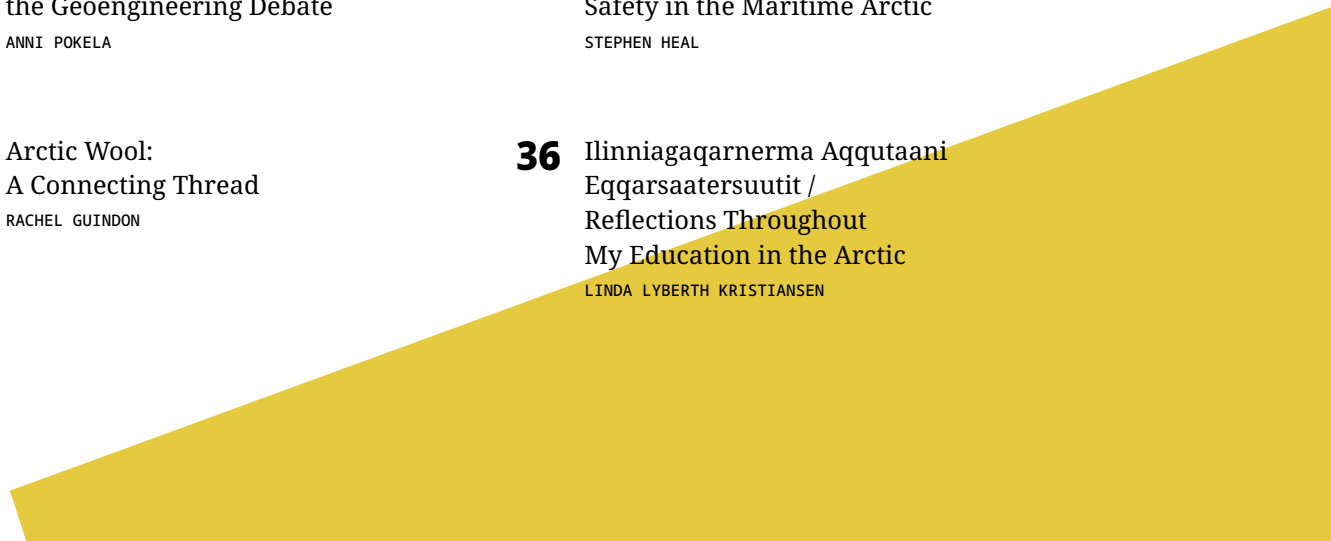
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Letter from the President

By LARS KULLERUD
President, UArctic

The University of the Arctic – UArctic – was announced with the vision of “shared voices” in 1998 by the Arctic governments and the Indigenous Peoples of the Arctic. While UArctic has developed over the past 25 years, we have seen parallel processes addressing the need to move towards shared voices between the Indigenous Peoples of the Arctic, the governments, and other northerners. Examples include the Truth and Reconciliation Commission of Canada, a similar process for the Sámi in some Nordic countries, and increased self-determination for Greenland. At the same time, the science community has been striving to move from the perspective of research about or for the peoples of the North to research with and preferably led by the peoples of the North on their terms.

The core of this work is to acknowledge and realize the truth about past and present wrongdoings. Only by accepting the wounds will it be possible to build a common future. It remains a priority for UArctic to be a constructive part of this process and, through that, contribute to a strong, engaged, informed, and dynamic North, creating better lives and environments for all northerners.

It is really encouraging to steadily meet more and more students from northern communities who show leadership, energy, and will to build a common future for all northerners. They revitalize languages and cultures, innovate new businesses and create jobs in the North, build homes, or wish to fill important jobs as teachers and health workers.

At a time when it is important to accept and address the wounds from the past, the present-day leaders, including us in academia, risk to inflict a new set of harm, this time towards nature and future generations. We have been too slow, and too shortsighted, to act on climate change and biodiversity loss in time. Scientists have documented beyond any doubt that we will not deliver on the Paris 1.5-degree target, and we might also fail on even more severe trajectories towards a sustainable future. Humanity is collectively on the path to a new set of wounds, put on future generations by us.

The future generations deserve that present institutions, experts and leaders do our utmost in addressing our own wrongdoings, including the new ones. The hope is that the collective intellectual capability of northern Indigenous Peoples and all academic institutions concerned with the North and the Arctic will be able to ensure that we do not repeat our mistakes.



Editorial

By OUTI SNELLMAN
Secretary General, UArctic



Going through the content of this year's magazine, I cannot help but be amazed by the power of cooperation. Wonderful things happen when people simply work together and are open to new ways of thinking. To me, every single article demonstrates this, starting from huge collaborative efforts like Arctic research planning to stories of individuals who have found whole new paths and careers through working with others.

Formal Arctic cooperation through the Arctic Council has been paused since 2022. This has severely impacted the possibility for all types of collaboration in the Arctic: economic, cultural, research, education, mobility. However, UArctic as an organization has been able to shift focus from circumpolar to more global, including entire new regions in our activities. It now looks like even circumpolar cooperation will again be possible at least in limited ways, and UArctic is a good place to start with rebuilding bridges between people.

Even the cover of this magazine demonstrates collaboration: an icebreaker leads the way, assisting others so they can follow. It is also a recognition of a new UArctic collaboration on maritime safety, adding to the earlier strategic focus on tipping points. In both strategic initiatives UArctic members are still the drivers, leading the way – and of course showing how great an impact we can have when we join forces with others.

Building Connections

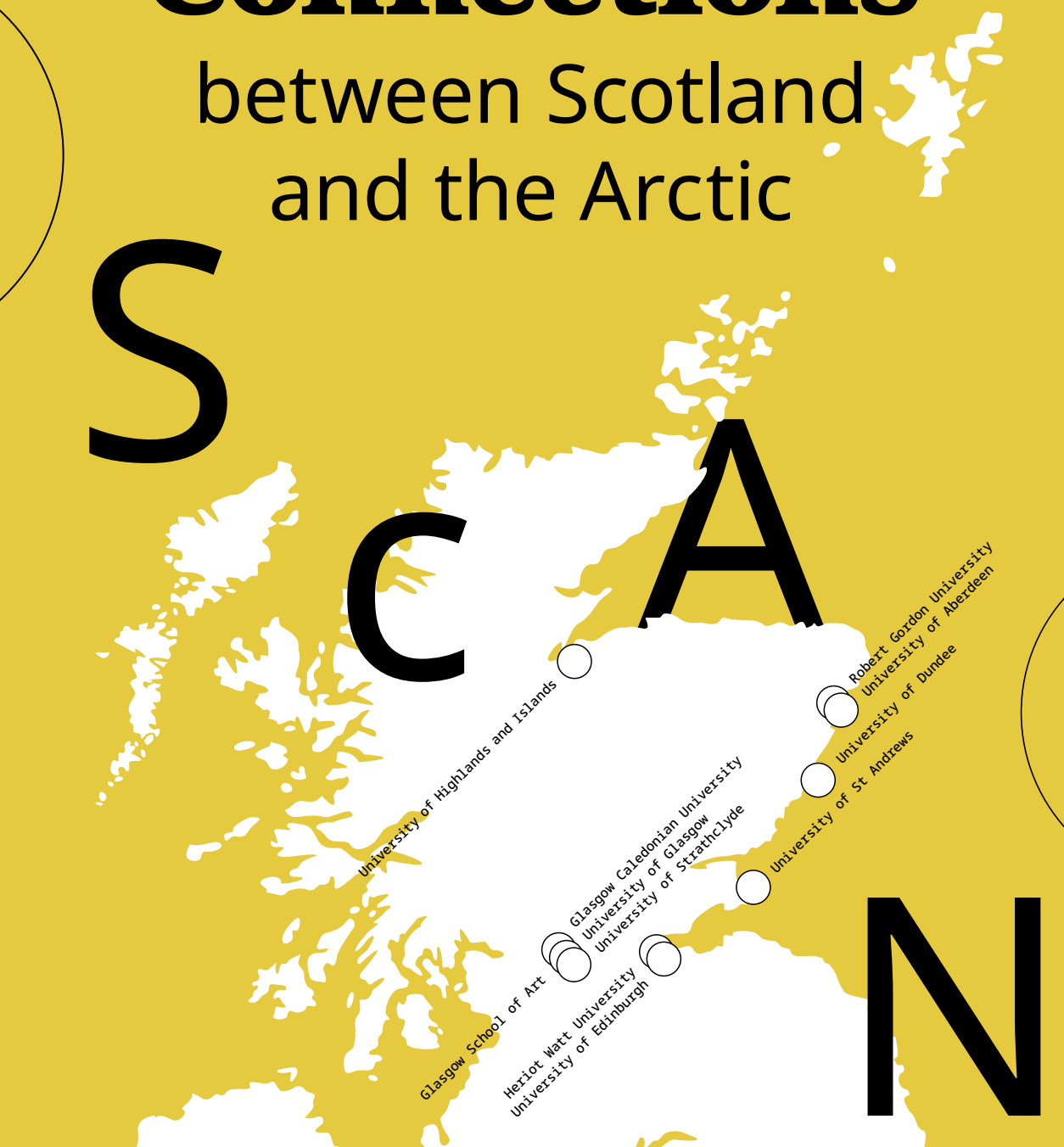
between Scotland
and the Arctic

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University of Highlands and Islands

Glasgow School of Art

Heriot Watt University of Edinburgh

Glasgow Caledonian University
University of Glasgow
University of Strathclyde

University of St Andrews

University of Dundee
Robert Gordon University
University of Aberdeen

By DARIA SHAPOVALOVA,
Chair of the ScAN Steering
Group, Director of the
Aberdeen University Centre for
Energy Law, Senior Lecturer,
University of Aberdeen

The Scottish Arctic Network (ScAN) brings together eleven universities and research institutions based in Scotland. Acting as a UArctic Regional Centre, ScAN connects over 150 individuals from academia, NGOs, and the public sector.

As the world's northernmost non-Arctic nation, Scotland shares a lot of similarities and challenges with its Arctic neighbours, from rurality and population density to just energy transition and community resilience. This lends itself to a strong research base with institutions in Scotland contributing to more than one thousand academic publications about the Arctic region in the past twenty years.

ScAN as Part of the UArctic Family

Despite the long and rich history of Arctic research by Scotland-based scientists, our network itself is very young. The starting point of ScAN was Scotland's Arctic policy framework. Launched in 2019, it laid the foundation for the Arctic Connections funding that has been supporting projects led by Scotland-based institutions and promoting Arctic cooperation.

ScAN was formally established in 2021 and is built around the Scottish universities who are members of UArctic in partnership with the Scottish Government. This is a community open to anyone interested in Scotland's relationship with the Arctic, but most of our members are researchers across all disciplines and career stages.

In 2023, ScAN became a UArctic Regional Centre, with the aim to promote long-term collaboration and dialogue between UArctic members in Scotland and Arctic members of UArctic. Since then we have been working on exploring how we can facilitate north2north exchanges as well as the participation of Scotland-based researchers in UArctic Thematic Networks. We have also welcomed two new university members and started work on developing a north2north guide for Scottish institutions.

Knowledge Exchange and Network Building

In October 2023, at the Arctic Circle Assembly in Iceland, we had the privilege of hosting an honest conversation about the challenges and opportunities for knowledge exchange through Arctic research networks. In addition to ScAN, the session featured ArcticNET, the Icelandic Arctic Cooperation Network (IACN), and the Network of Arctic Researchers in Ireland (NARI). The panel discussed the challenges of running research networks in the era of funding precarity. They also highlighted the excellent opportunities that participation in research networks has brought to them over the years and the need for inter-network communications and cooperation.

Over the past year, ScAN provided travel grants to six early-career researchers for presenting at the UK Arctic Science Conference, the Arctic Circle Assembly, and Arctic Frontiers. We launched and held our first webinar series featuring talks on Arctic shipping, disabled inclusion and participation in polar research, remediation in Alaska, northern pedagogies, and Arctic marine infrastructure. We also helped organize the Arctic Science Summit Week in Edinburgh in March 2024.

Going forward, we will continue to build our network to improve inter-institutional collaboration and communication on Arctic research in Scotland, and to promote our Arctic academic expertise both in Scotland and internationally.

Members of ScAN

- Glasgow Caledonian University
- Glasgow School of Art
- Heriot Watt University
- Robert Gordon University
- Scottish Alliance of Geosciences, Environment and Society (SAGES)
- University of Aberdeen
- University of Dundee
- University of Edinburgh
- University of Glasgow
- University of Highlands and Islands
- University of St Andrews
- University of Strathclyde

**“
Scotland
shares a lot of
similarities
and challenges
with its Arctic
neighbours.**

Shielin-bough:
**A Shelter for
Learning
Together**

By GINA WALL,
Programme Director,
The Glasgow School of Art

TIMO JOKELA,
Lead of the UArctic Thematic Network on
Arctic Sustainable Arts and Design, UArctic
Chair in Arctic Art, Design and Culture,
Professor, University of Lapland





PHOTO: GINA MALL

“ Students thrive when engaged in experiential learning with high-quality materials. ”



PHOTO: GINA MALL

Shielin-bough is a collaborative, inter-institutional project between The Glasgow School of Art (GSA) and the University of Lapland, supported financially by the Scottish Government’s Arctic Connections Fund and the Finnish Institute in the UK and Ireland.

Within the project, we have developed learning, teaching, and research outputs focused on shelter, food, and storytelling in Scottish and Finnish culture. This thematic scope has allowed for the examination of Arctic and near-Arctic ecocultures in the spirit and values of UArctic: bridging the past and present, traditional knowledge and contemporary practices. Shielin-bough is a good example of the approach of the UArctic Thematic Network on Arctic Sustainable Art and Design to bringing sustainability-focused research, art, and education into practice across northern and Arctic regions.

The project has culminated in a live build at the GSA Highlands and Islands campus. The building is directly inspired by the cultures of the shieling and *laavu*, and an important element of the live build is that it was student-led from the outset. The structure was created in collaboration, based on sharing participants’ skills and diverse intercultural experiences. Our project was also interdisciplinary, with students joining from a range of educational programmes at various levels in fine art, art education, design innovation, and architecture in Finland and Scotland.


Due to the project’s deep focus on the relation between people and place, students have been concerned to ensure that the building is as sustainable as possible. We used untreated wood which was locally sourced from Logie Timber, grown within a 60-mile radius of the sawmill. The brief

suggested that the *laavu* should sit lightly in its surroundings, and the decision not to use concrete footings or dug foundations necessitated an innovative response. The resulting foundation feet were designed by staff at the Mackintosh School of Architecture and made in collaboration with Logie Timber using large Douglas fir logs. The students also explored the innovative use of traditional materials such as wooden shingles and thatch made from heather, sustainably sourced from the Cairngorms.

Learning through doing and the development of material literacies via practical handling has been crucial in the project. By engaging the students in live learning, we have been able to respond to contemporary estrangement from tacit, embodied knowledge, which has been exacerbated by the COVID-19 pandemic.

It was apparent throughout the project that regardless of discipline, students thrive when engaged in experiential learning with high-quality materials. For the students of architecture and fine art, handling materials at scale was especially important in coming to understand the realities of the construction. For students more used to working on screens in a design studio, the opportunity to learn new skills with materials was transformative. For teachers and students of art and education, the opportunity to work across flattened hierarchies in a genuinely engaged way was liberating and generative in terms of learning *with* and *together*.

The full impact of the project remains to be evaluated, but as project leaders, we are certain that its legacy will resonate for considerable time to come.

 Further information: www.shielinbough.co.uk

The Arctic Fairytale:

Let's Make It

Happy

Ever

After

By MINIK ROSING,
Professor, Globe Institute,
University of Copenhagen

The perception of the Arctic has varied through time and between cultures, but because of its fairytale beauty and menace, it has always occupied a special place in our imagination. To the Latin world, the Arctic was a region of important resources: ivory and fish. To the Arab world, it was a source of mythological animals like the white falcon and the unicorn. The Anglo-Saxons showed little interest in the Arctic until the Spanish empire monopolized the known trade routes to the orient and the Arctic became a physical barrier to the goods of East Asia. To the Nordics, the Arctic was a part of the cultural heartland; it was home.

Invincible, monumental

During the colonial era, “conquering” the Arctic became the focus of storied national and personal obsessions designed to display expansionist bravery and fortitude, learning, and entrepreneurialism. It was arm-wrestling on a heroic scale with an opportunity to prove the superiority of one’s own culture and to bag the riches that lay beyond. But the Arctic was a formidable and dangerous opponent; deadly icefields spiked with merciless polar bears and raging walrus. While gentlemen could attempt exploration, it was no place for one to live. Mostly, the Arctic “conquered” these explorers itself.

But the Scandinavians were different. The Arctic was simply part of Nordic life, and its peoples were assumed to be descendants of old Nordic cultures. Its haunting splendor and remoteness offered plenty of opportunity for people made of “the right stuff”. The right stuff, in this case, was Nordic pragmatism. In their equally storied forays into their Arctic hinterland, these people made use of Inuit and Sámi knowledge and skills. They used dog sleds expertly, planned their rations to the last dog, got home safely.

Melting

Environmental and climate change concerns took root during the latter half of the 20th century, and the international percep-

tion of the Arctic began to change. Traditionally, its frozen landscape, awesome wildlife, and defiant ecosystems had been seen as unchanging and timeless. Now, it was vulnerable, even fragile. The emblematic polar bear morphed from explorer-devouring monarch of the animal kingdom to an endangered species clinging to melting scraps of once-eternal ice fields. Likewise, the peoples of the Arctic, whose survival skills were second to none and heritage of arts both austere and lush, were cast as disempowered victims of modernity with nothing to offer in a changing world.

Think again

The global climate crisis is well underway. It is time to change our view of the Arctic. What if it were not a lost cause, but instead could play a part in modern solutions? The Arctic and its peoples would no longer be objects of catastrophe research; they would be active and meaningful agents in shaping the future. After all, our future is not destined but a result of decisions and actions we make today.

Arctic Agency: a reason for optimism - joy, even

The classical nature of research is to focus on the inherent properties of individual domains of the world. We describe these as

exhaustively and accurately as possible, and then move on to describe another domain. However, now is the right time to focus on the differences between domains, and how the latent power of potential differences between Earth’s regions can be brought into action in order to turn imminent and impending crises into new opportunities.

Due to its climatic and cultural peculiarities, the Arctic is vastly different in most aspects from the regions where the majority of the world’s people live. My focus is on a single, but potentially globally important, peculiarity of the Arctic, specifically Greenland. Greenland is host to the last remaining ice sheet in the Northern Hemisphere. Its presence has deep implications for local and global climates, biodiversity, societal infrastructure, and, surprisingly, for the global distribution of plant nutrients.

During the past 2.5 million years of glaciations, ice has carved the alpine landscapes we enjoy in Greenland today. Deep fjords and valleys are all eroded by moving glaciers which have pulverized the granitic basement of the Greenland subcontinent during their movement across the land. The fine debris from the glacial landscaping has been washed out to sea, where it has formed the large shallow fishing banks. This debris can be found in deltas and even in raised sea floor deposits on land. This fine-





grained “rock flour” material is particular to the Arctic, in part because it takes an ice sheet to produce it and in part because the material, once formed, remains stable and unchanged in the cold Arctic environment.

At lower latitudes, in warmer climates, the minerals of the granitic continents have been subjected to warm acidic rainwater for millions of years. The rainwater acid has dissolved the primary minerals of the granite and left a residue of insoluble clay minerals. This process is called weathering. It provides nutrients to plants growing on land, as well as nutrients that reach the sea via rivers nurturing all life in the oceans. This process has worked well, but over millions of years of exposure, the primary minerals in tropical and sub-tropical soils have been exhausted. They can no longer provide nutrients to the crop plants, the food on which people of those regions depend. No fresh minerals left to nourish plants and ocean life. This is a major cause of undernutrition, malnutrition, and economic despair for populations in vast tracts of Earth’s warm regions.

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It is time to change our view of the Arctic.

If you went looking for these “rock flour” nutrients, you would find them in the fine mineral grains in the rock flour in billion-ton deposits along the margins of the Greenland ice sheet. When we connect the Arctic to the tropics, we can activate this resource that lies inactive in Greenland and release its immense potential for generating food and wealth in countries in desperate need of solutions. In addition to the potential for improving global food security, the glacial rock flour also holds another promise for the world. The weathering process that releases the plant nutrients consumes carbon dioxide (CO₂) from the atmosphere – enough that it may help reduce the excess CO₂ content of the air and reverse global warming.

The 2023 Frederik Paulsen Arctic Academic Action Award winner was chosen from a shortlist of four nominees. In addition to Minik Rosing and his winning rock flour idea,

Mary Albert, Toku Oshima, Lene Kielsen Holm (posthumous), Christopher Polashenski, Meiyang (Fiona) Li, Hunter Snyder, and Alyssa Pantaleo were nominated for developing solar-powered, locally and cooperatively owned portable fish-drying chambers in Greenland as a sustainable transition to a low-carbon future for Arctic coastal communities to help with local food security, and to increase income for fishers and improve energy security while investing in and respecting traditional knowledge, local decision-making, economic empowerment, self-determination and food security.

M. Stuart Harris was nominated for working with the Maniilaq Association to create a program of health monitoring with colleagues in the Northwest Arctic Borough of Alaska to quantify and qualify the impacts of climate change on human health using the lens of emergency medical care to provide evidence to impact health-informed decision making.

Scott Hosking, Tom Andersson, Ellen Bowler, James Byrne, Alden Conner and the team were nominated for working in close partnership with WWF and the Government of Nunavut Department of Environment using Artificial Intelligence (AI) to increase the accuracy and range of sea ice forecasts to help Arctic residents to prepare and adapt to changing ice conditions.

The Frederik Paulsen Arctic Academic Action Award provides high-level recognition for innovative ideas that transform knowledge into action to help address the impacts of climate change in the Arctic. It comes with a 100,000 euro unrestricted prize, intended to help develop the idea through outreach, engagement and communication. The award is a joint activity of UArctic and the Arctic Circle.



THE FREDERIK PAULSEN
ARCTIC ACADEMIC ACTION AWARD



Read more:
www.uarctic.org/actionaward



Cryosphere:

Linking the Arctic with the Third Pole

By KAMRUL HOSSAIN,
Lead of the UArctic Thematic Network on Arctic Law, UArctic
Chair in Arctic Legal Research and Education, Director of
the Northern Institute for Environmental and Minority Law,
Research Professor, University of Lapland

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In September 2023, the Northern Institute for Environmental and Minority Law of the Arctic Centre of the University of Lapland initiated the first “Inter-Polar Conference: Connecting the Arctic with the Third Pole” in Kathmandu, Nepal, in the heart of the Third Pole. The International Centre for Integrated Mountain Development (ICIMOD) was the local host and co-organizer of the event, with myself as UArctic Chair in Arctic Legal Research and Education and the UArctic Thematic Network on Arctic Law as collaborators.

Our primary goal was to create a platform for young scholars from the Arctic and the Third Pole to interact, share ideas and thoughts, promote academic dialogue, and

build a network around identical issues arising from climate change. The aim was to unite the two regions to study together in order to understand planetary concerns and explore possible solutions. Given the fact that the two regions have almost always been explored separately, and there is a systematic knowledge gap especially in social and human sciences, the conference helped highlight interconnected issues from an interdisciplinary perspective.

Although the Arctic and the Third Pole are far apart, the presence of cryosphere – the continuous and near-permanent presence of water in a frozen state – across these territories creates ecological significance within the regions and beyond. The Arctic covers portions of the landmass of eight circumpolar countries of the North surrounding the Arctic Ocean, embracing territories across borders and also areas beyond national jurisdictions. The Third Pole refers to the Hindu Kush Himalayan region comprising the

4,500-meter-high Tibetan Plateau from the northern part of South Asia to the mountain ranges of Central Asia. The whole region spreads over an area of more than 4.2 million km² across nine countries, falling entirely under some state’s national jurisdiction with no areas beyond national jurisdiction (unlike the Arctic).

The features of the cryosphere and their role in global climate systems are the primary points of connection between the Arctic and the Third Pole. The melting of the cryosphere resulting from global warming significantly impacts both regions. The scientific conclusions, such as the Intergovernmental Panel on Climate Change (IPCC) report, suggest that the rising temperatures in the Arctic and in the Third Pole are disproportionate: the pace of the increase is faster than the global average. As a result, the thawing cryosphere in both regions influences and transforms local, national, and regional environmental and socio-political infrastructures, as well as global ones. This brings forward somewhat identical issues for studying the two regions together.



Studying the two regions together creates first-hand knowledge and shared understanding.





PHOTO: JITENDRA RAJ BAIRACHARYA / ICIIMOD

Participants of the first “Inter-Polar Conference: Connecting the Arctic with the Third Pole”.

Due to the gradual thawing, which causes long-standing glaciers and large icebergs to disappear, several indicators of the cryosphere thaw in both regions are at a tipping point. The loss in the cryosphere affects the sustainable functioning of the Earth system and has major impacts not only on the local ecosystems but also on the planetary process as a whole. For example, both regions are rich in biodiversity and known as global biodiversity hotspots. Biodiversity loss resulting from climate change drastically threatens the ecological balance both within and across regions. The cascading effects further threaten people and communities at large who rely on natural ecosystems, and contribute to many other challenges regionally and globally. For example, the Arctic and

the Third Pole are home to diverse groups of Indigenous and tribal peoples and local communities who have distinct and unique cultures connected to the regions’ natural features. They suffer from the loss of traditional livelihoods, cultural identity, and economic and social marginalization. With regard to global and regional challenges, the melting of the cryosphere in the Arctic will contribute significantly to the rise of global sea level, affecting the 10% of humanity living within ten metres above the sea level, which further results in internal and external displacement. The melting of the Third Pole glaciers and changes in the snowpack will in turn have significant regional effects related to the provision of fresh water to a quarter of humanity.

However, similarities do not necessarily mean similar outcomes. There are differences between the regions in many respects, such as in overall (geo)political, so-

cial, and economic structures. Yet, studying both regions together while exploring their similarities and differences creates significant knowledge for understanding the root causes of many global and regional challenges. Comparative and interdisciplinary research, which highlights transnational governance needs and responds to (geo)political, socio-cultural, environmental, and legal dynamics of the regions, can offer a solid understanding of the interlinked problems and their possible solutions.

Studying the two regions together, with scholars from both interacting with each other, creates first-hand knowledge and shared understanding. Learning about the commonalities and differences further contributes to exploring planetary concerns holistically with a critical perspective, as the impacts of climate change and the climate crisis stemming from the two regions carry significant consequences globally and regionally.



Facing the Ruptures:

A Youth Perspective on Hope and the Geoengineering Debate

By ANNI POKELA,
Speaker and Strategist,
Operaatio Arktis,
Master's Student,
University of Helsinki

Much like many others, I would prefer not to talk about climate interventions. I would prefer to talk about systemic change, sustainable living, emission reductions, and other things I know many of my peers would agree with. I would like to talk about all the hope I have for the future.

However, parts of our Earth are already breaking down in ways that only climate interventions – sometimes known as geoengineering – could halt. This situation, to me, means two things. It means that it is time to research these interventions. And it means that we need to change the way we look for hope.

In our youth-led project Operaatio Arktis we have been trying to learn and analyze the various reasons why so many people from climate activists to researchers to policy makers are so thoroughly opposed

to even researching climate intervention techniques – even though science clearly states that the catastrophic risks can no longer be avoidable with just emission reductions. First of all, people often have very legitimate concerns about the possible techniques. I have them too. Interventions involve risks and unknowns. This argument, however, seems to weaken upon further examination. Aren't the risks precisely why we should do more research, and do it ethically? After all, it is not until we have more scientific knowledge that we can compare the risks of interventions to the risks of not intervening in the collapse of Earth system elements.

In my experience, the underlying reason for being against any type of research on interventions has actually, in some cases, less to do with the science and the risks and more to do with something more emotional. That is what I would like to discuss.

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**We need to
 change the
 way we look
 for hope.**



PHOTO: ANNUKKA PAKARINEN / MAJ AND TOR NESSLING FOUNDATION



PHOTO: PIETARI PUROVAARA

I believe that one of the most common reasons why this issue is so difficult for many is the overwhelming uncomfortableness and sadness of our situation. Accepting the need to discuss climate interventions means accepting that we have failed to cut emissions fast enough; failed the people who are already suffering from global warming. Let's not be afraid to use that term: it is a *failure* that we have come to this – to this point where pieces of Earth systems are already beginning to collapse in ways that even getting to net zero emissions will not be enough. We, especially my generation, have already lost some things.

I was asked to discuss in this piece, among other things, what gives me hope for the future. I do have hope – otherwise I would not be doing the work that I do – but I struggle with talking about hope when me and my peers' situation and our grief about it are not being confronted. Many of us are in mourning, and we are told to pick ourselves up by the bootstraps, and to inspire hope before even having a chance for a funeral.

When older people express their worries to me about what my future looks like on our current trajectory, I usually want to tell them: "It's worse than you think." To the people who are worried about the anxiety and sadness I feel about this, I want to say:

"It's worse than you think." It makes for an uncomfortable dinner conversation, but it is only when people around us realize and confront the absolutely horrifying nature of our situation that we can come together and move forward. That is what creates real hope in me.

This is in many ways how I view the process of understanding the need for additional measures alongside emission cuts. We need to learn how bad things are with the Earth system elements in order to help them and to intervene in their destruction. Because much like in many of these systems, something has already broken in us young people.

It is clear to me that both of these ruptures can be repaired. If we already knew that climate interventions do not work, we could move on to accepting the damage that is unavoidable and go back to only talking about mitigation and adaptation. But we are not there yet. I also believe there are possibilities to find solace and hope in my generational experience. However, you cannot heal a wound before you really look at it. So instead of continuing to follow our old strategies that have brought us here, my hope is that we turn towards these ruptures around us and in ourselves and that we come together to grieve. Then, we can reassess our possible pathways.

A Connecting

Arctic Wool

Thread



By RACHEL GUINDON,
Master's Student,
Université Laval



It all began with a small piece of soft brown wool entangled in the delicate branches of a dwarf birch. I was a new Master's student starting my fieldwork, spending days crouched over the tundra in Nunavik, Northern Québec. While my task was to identify plant species every ten centimetres along a transect, I consistently discovered fine wool fragments in the subarctic vegetation. This would become an additional connection to the subject of my study, the mighty *umingmaq*, or muskox in English.

This large Arctic herbivore was introduced to Nunavik in late 1960s as part of a farming project near Kuujuaq at Old Chimo. When the farm closed, authorities gradually released 55 animals into the wild between 1973 and 1983. Over a few decades, the species colonized the Ungava Bay coast, becoming a thriving population of 4,500 individuals. Inuit communities voiced concerns about the effects of this new and increasing muskox population, especially as caribou, a central species in Inuit culture, was experiencing a steady decline over the years. My study aimed to investigate whether muskox presence was changing plant communities on the Ungava Bay coast, leading to weeks spent meticulously examining plant plots.

The wool I found was named *qiviut*, the fine underwool shed by muskox every spring. It is considered one of the most precious nat-

ural fibers in the world due to its exceptional softness, warmth, and lightweight properties. A single muskox hide can yield approximately two kilos of qiviut. While qiviut is not very well known in Nunavik, its significance and value are recognized in other Arctic regions where muskoxen are prevalent.

My vegetation data collected, I left Nunavik with pockets full of the warm and soft fiber, uncertain how to use it. My journey led me to a year-long internship at the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway. Little did I know that this was where I would encounter the right people to guide me in utilizing this precious resource! The friends I made were fellow biologists but also knowledgeable fiber artists who introduced me to the fascinating world of spinning wool and knitting. Studying abroad offered me a fantastic opportunity to establish valuable connections and friendships, and to acquire new skills and perspectives.

Upon returning to Nunavik for additional fieldwork, I wore my knitted neckwarmer made of handspun qiviut. The garment generated a great deal of interest among Inuit women who asked me to return, this time to teach qiviut spinning to the community as they wanted to benefit from this newly available resource. That unexpected request transformed into a rich collaboration with Kativik Ilisarniliriniq, the school

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**What began with
a small piece of
wool...**



//
...has evolved
into a unique
collaborative
initiative.



board of Nunavik. Indeed, I was asked to set up workshops on qiviut through an Inuit culture program for adult education that would travel across the fourteen communities of Nunavik.

During these workshops, I share information and techniques on every step of qiviut spinning: collecting, washing, spinning, and even dyeing techniques. Local women enthusiastically participate in these gatherings. The workshops quickly evolved into spaces for open dialogue and mutual sharing where Elders and kids would often join. Discussions not only revolve around fiber knowledge but also delve into ecological insights and behavioral observations of this new hairy animal in their land. Before long, we also shared laughter as we sat together in a circle for hours, combing through a dried muskox winter hide, using a dog brush to gather the wool. I also teach how to use qiviut as insulation layer in parkas, similar to eider down parkas Inuit women are already sewing. Being expert seamstresses and crafters, they often share and adapt ideas on qiviut use for their community. Those moments are opportunities to discuss a variety of topics such as climate change effects in the Arctic, traditional plant uses, or muskox history in Nunavik. While I teach the workshops in English, the participants often speak Inuktitut, allowing me to listen, learn, and immerse myself in the melodic tone of the language.

I have had the privilege of visiting seven communities so far: Kuujjuaq, Tasiujaq, Umiujaq, Kangiqsujuaq, Quaqtaq, Kuujjuarapik, and Kangiqsuallujuaq. Each workshop not only enhances my skills as a scientist of northern ecosystems but also enriches my vision and my connection to this territory and to the communities living on it. I am always deeply inspired by Inuit women's profound knowledge of the land and wildlife as well as their remarkable crafting skills. They have been generous and welcoming mentors to me, and I am confident that they will become Nunavik's guardians of the qiviut and muskox knowledge. What began with a small piece of wool found in the tundra has evolved into a unique collaborative initiative, connecting the North and the South, connecting researcher and communities, and, most importantly, connecting women for a sustainable future.



Analyzing Arctic Research Trends

Two recent UArctic reports analyze Arctic research trends based on funding data and bibliometrics. As a key finding, they affirm the significance of the United States as a major Arctic research nation. The US dominates in both total spending and the number of initiated projects, which is in line with previous reports compiled by UArctic. In addition, the US continues to lead Arctic research contributions in terms of publication numbers.

The findings presented in the two reports are expected to drive further discussions and inspire new avenues for future analysis. Experts emphasize the value of ongoing data utilization to deepen our comprehension of Arctic research, recognizing the importance of documenting these insights for posterity.

By LENA MARIA NILSSON,
Research Project Coordinator,
Arctic Centre, Umeå University

External Funding

2016–2022

The report on external funding is a follow-up on two previous UArctic reports from 2016 and 2017. The analyses are based on data from the Dimensions database, a commercial platform that organizes data from more than 600 different research funders. Despite its considerable scale, instances persist where funding information is not accessible. “Dimensions is a fairly new and growing database – one can never expect it to be 100% comprehensive,” explains Rickard Danell, Professor in Sociology at Umeå University and one of the authors of the report.

Natural science dominates

In terms of disciplines, research related to earth science (#1), environmental science (#2), and biological science (#3) dominates. However, among the top ten are also medical, social science, and humanities research, exemplified by subject areas such as health science (#4), education (#7), and human society (#9). “There are significant similarities between this and the bibliometrics analysis in which the dominance of natural sciences was also evident,” notes Dag Aksnes, a researcher at the Nordic Institute for Studies in Innovation, Research & Education, Norway and co-author of the external funding report.

Varying funding systems

One challenge of interpreting results on research funding is that the funding systems vary between countries. Countries like Denmark, in which a large portion of the grant data is not available through Dimensions, are disadvantaged in the calculation, while countries like Sweden benefit with a high proportion of externally funded research included in the database.

Sweden is also one of the countries that has increased in importance for funding and initiating research in the Arctic in recent years. Together with the US, Canada, Russia, and Norway, it now belongs to the top five countries that have initiated the most research projects in the Arctic region since 2016. Previously, that position was held by the United Kingdom.

EU the second-largest funder

The European Union also stands out as a significant player in Arctic research. Though large in size, EU-funded research projects are typically few in numbers, which makes the EU only the eighth-largest initiator of research projects. Looking solely at the size of funding, however, the European Union is the second-largest research funder in the Arctic. The largest funder is the US, with Norway, Canada, and Sweden following the EU.

UArctic institutions important players

From a global perspective, the report shows that institutions affiliated with UArctic are important players in Arctic research. In most of the countries that are part of the Arctic Council, UArctic members dominate as initiators of Arctic research. The exceptions are the US and Canada where most Arctic research takes place in institutions outside UArctic, and Sweden where the initiative does not differ between UArctic members and non-members.



Read the report in full:
<http://umu.diva-portal.org/smash/get/diva2:1828711/FULLTEXT01.pdf>

Bibliometrics

2016–2022

The report on bibliometrics systematically examines the sustained growth of peer-reviewed publications on Arctic research since 1996. The analysis is based on e.g. publication indicators from the Scopus and SciVal databases. Arctic research in this context is defined as research performed within, based on material from, or aiming to be applied within the maximum geographical area defined as the Arctic by international collaborations related to the Arctic Council.

A 22-percent growth in publications

The report indicates that the earlier growth of Arctic research in the period of 1996–2015 has persisted between 2016 and 2021, with a 22% increase in the volume of publications. Despite this surge, the growth rate remains in line with the global average across all fields. The United States continues to lead Arctic research contributions, followed closely by Russia, Canada, China, and Norway. “Notably, China has experienced the highest relative growth, ascending from the eighth to the fourth-largest contributor,” says Dag Aksnes, the main author of the report.

Earth and planetary sciences the main topic

The report underscores that earth and planetary sciences, encompassing disciplines such as geophysics, oceanography, geology, and cryosphere studies, dominate Arctic research. Additional research is conducted across various fields, with biology as the second-largest discipline.

United Kingdom with the highest citation impact

The citation rate is a measure describing the impact of Arctic research. During 2016–2022, Arctic publications have garnered slightly higher citation counts than the average for all Scopus publications, indicating an increasing scientific impact. The top five countries from a citation impact perspective differ somewhat from the result when counting absolute numbers. The United Kingdom leads in scientific impact, followed by Germany, the US, Denmark, and Sweden.

Every third publication international

Collaboration remains a hallmark of Arctic research, as evidenced by the substantial international co-authorship rate. In 2022, over 36% of Arctic publications involved collaborators from different countries, compared to the Scopus average of 22% across all fields. Interestingly, this trend varies significantly across countries, with several nations producing most of their Arctic scientific publications through international partnerships. Russia stands out as an exception, with only 11% of its publications stemming from foreign collaborations.



Read the report in full:
<http://umu.diva-portal.org/smash/get/diva2:1787024/FULLTEXT01.pdf>



Choosing to **Get**
Involved

Interview with Michael Carey

By HANNELE PALVIAINEN,
Philanthropic Communications
Coordinator, UArctic

Michael Carey is relatively new to UArctic, but his energy and fresh ideas are already leaving a mark. He is a member of the UArctic President’s Cabinet, a group of individuals who provide advice and support in philanthropic fundraising for the network, and also the initiator of the UArctic Entrepreneurship Fund which boosts the creation of innovation and local solutions aiming for positive impact.

Being engaged in northern issues was never an obvious choice for Michael. As a southerner from the Arctic perspective, as he puts it, he did not have a natural buoyancy or attraction to the region and only cursory knowledge about it. A trip to a friend’s wedding in Iceland a few years ago was the first step in changing that – though perhaps in an unexpected way.

“Being there in Iceland I thought ‘wow, this is pretty awesome.’ I have traveled a lot, but there was just something special about this place where everyone spoke to me in the local language instead of getting scared when I walk in, and where I didn’t get sunburned. I told my wife a bunch of times that this is my native land, my place,” he jokes. “But it stuck in my mind. Down the line, when the actual opportunity to support UArctic came around thanks to that same friend, it triggered something that brought it all together.”

Although the Arctic itself might not have been on Michael’s radar, he has always cared about the environmental challenges that humankind is facing. He has been especially interested in climate change and alternative energy even during his school years. Now, he is turning his attention to what could be done about the challenges.

“The risks and the changes that are affecting the Arctic are a harbinger for what’s coming for the rest of us. There’s a unique opportunity here to focus on human-wide solutions – not just academic, not just political, but everyone working together. Of

particular interest to me is the ability for the industry and the scientific community to come together to look for solutions as they relate to the Arctic. In a lot of ways, this region is a test lab for us to try to conquer some of these issues before they become giant global problems. Obviously, the issues facing the Arctic are global issues already, but a lot of people don’t look at it this way. That’s what I see as an opportunity: to test new technologies, community solutions, environmental solutions in a place where the change is already rapidly happening.”

Coming from the world of start-ups, Michael is keen on fostering early ideas that can have a positive impact. Kicking off the UArctic Entrepreneurship Fund has therefore been a logical way for him to support the North and its communities. But just like he did not have a pre-existing interest in the Arctic, promoting northern innovation and development was not a life-long dream either. Michael did, however, see it as a chance to put his skills and capacities to good use.

“I think you can either choose to be someone who cares, or someone who doesn’t care. That means you choose to get involved, or you don’t get involved. When I first met with UArctic leadership, we all saw an opportunity to bridge the gap between industry and academia; a way that UArctic could be uniquely positioned to encourage ideas for solving problems in the Arctic. The Arctic is already experiencing a lot of challenges that you’re not going to find anywhere else, so any solutions that we create or support at the early stage could have an outsized impact for the rest of the world.”

“You can’t do everything, so it’s good to know where your expertise is. I’m not an academic or a politician. I’ve become successful in business; that’s my strength. As a volunteer, if you want to give of your time, your talent, your treasure, the best is having a combination of all three. In my case, I felt I was in a position to give that support to UArctic, so I did.”

“
**There’s a unique
opportunity
here to focus
on human-wide
solutions.**

“The outcome that I hope to see is two-fold. First, I want to actually have an impact on the issues facing our world as it relates to climate change. Not only is that a great benefit to the Arctic, but it’s also a selfish benefit for all of humankind – it will help everyone. The second thing I want is to create a can-do attitude and a belief in industry within the communities of the North. This region has always been economically underserved, but with the global challenges facing the world, there could be a lot of opportunity. Just like the first place to ever design solar panels; any kind of breakthrough technology brings a lot of economic benefit to the areas where it’s done. The Arctic has the opportunity to do that for the challenges that are coming to face us now.”

Since his first introduction to the network three years ago, Michael has gradually become more and more engaged in UArctic. There was “no one special magic thing” that made the relationship work, he says, but a few unique features have stood out over time.

“What I like a lot about UArctic is that it’s truly global in nature. There’s no real political stuff it has to deal with, and it’s not biased towards any particular nation or their issues. As an entrepreneur, I also appreciate that UArctic is very aspirational and risk-taking. You don’t find that in a lot of organizations who expect your ideas to fit in their box. UArctic is a much more living organization, in my opinion, and that’s what makes it special.”

My Northern Journey:

Ruari Carthew



**“
It has been really rewarding
to see my work make a
difference on the ground.”**

I am originally from northern Canada, Yellowknife, and currently live in southern Sweden. I started with UArctic as an intern in 2004, coming fresh out of university in Canada. I was really lucky, because my internship was split between the UArctic International Secretariat in Rovaniemi, Finland and the north2north mobility office that was being established in Alta in Norway, giving me a chance to experience both countries.

The people that I crossed paths with were really genuine; good mentors with lots of wisdom and life experiences to share. But one thing that stood out was that they seemed to have a more common purpose and unity around the vision of UArctic, which was still in its infancy at the time. That unity of purpose and desire to make things work in the North for northerners was a really powerful experience and resonated with me. I took that with me to what I now do, where I work a lot with northern communities. I am really interested in helping to empower them to work with what they have, with the strengths they have, as well as exploring the things that work out in other similar circumpolar environments.

I have always had a love for the North. It is a unique part of the world because it is so vast, and so ecologically sensitive, but also very undeveloped. And there is just tremendous potential. My background is in ecology and environmental studies, so I am very

much aware of how vulnerable the northern environment and climate is to change. We are definitely seeing that with climate change now. My northern journey has really revolved around trying to help sustain and protect this notion of a sustainable North, one that continues to work still for the people and for the environment. That is what originally enticed me to do the internship with UArctic, which in turn influenced my selection of further studies.

As a social economics specialist and consultant, I work a lot in the environmental assessment processes. The intent is to design and develop projects that are going to not only be economically viable but also have as small an impact as possible on the environment, while building a positive legacy for the people who are affected by the project. In northern Canada, the vast majority of those affected are Indigenous groups and communities, and the communities also tend to be very remote. I have had the opportunity and pleasure of being a senior reviewer on a lot of projects in the North, including some of major development projects. For instance, the establishment of a new highway that would connect a remote fly-in community to the highway system of Canada, which could take you anywhere in the country; a tremendous, tremendous change to that community and the lifestyle that they have known.

The work that goes on behind the scenes in those projects is massive. The input and analysis that goes into the development of the final decision, how that project proceeds, the lasting impact that the project will have on the ground, and the safeguards that are put in place to make sure that the community is protected... When you have a lot of professionals collaborating to understand really complex issues, and trying to put their heads together to come up with creative solutions on how to minimize impacts and maximize benefits... Those types

of projects are the ones that I am most proud of. It directly feeds into the main goal that has driven me in my career, which is to help build the resilience of the environment and vulnerable groups. You are developing something, so you are contributing to a sustainable economy, but you are also making sure that the environment is protected in a meaningful way for all users, and that the community is protected in terms of their health, security, and safety. And there are lasting benefits that come to those people as well. It is really great to know that all of one's work efforts make a difference, and that good things can come from that. I think it is really meaningful.

It has been really rewarding for me to see my work make a difference on the ground and have an impact. It continues to drive me, give me energy, and help maintain my passion. That is one element of why it is great to work in the North. Another is that I have received so many opportunities growing up in the North – and through my experiences in the North – that it feels good to give back. My heart is very much connected to this region, its environment, and its peoples. I want to remain part of that community, and I always find myself coming back to it. Even now, when I live in southern Sweden, I have made an active decision to continue working for the North from afar. I exclusively work right now in the northern environment, predominantly in Canada, and I find more of a connection and comfort there.

There is a common colloquialism, which I first heard at UArctic and repeat all the time now, that people in the North often have more in common with one another than their counterparts in the South. That has certainly held true for me in my journeys across the circumpolar world. The people are fantastic, and the nature is fantastic, and put them together... Hopefully we can maintain it all for future generations.

The Arctic Academy for Sustainability

By KARIN BUHMANN,
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“ Finding pathways to a social-ly responsible green transition, intertwined with sustainable resource management in the Arctic, is imperative for the long-term well-being of Arctic peoples and for reducing the impact that resource exploitation has on Arctic ecosystems,” explains Professor Karin Buhmann, Lead of the UArctic Thematic Network on Arctic Sustainable Resources and Social Responsibility. To contribute to this challenge, our Thematic Network has developed the Arctic Academy for Sustainability with generous funding from the Prince Albert II of Monaco Foundation.

The Academy is a multi-year project (2022-2025) spanning over the European and Canadian Arctic with university partners in Canada, Denmark, and Finland. The Academy acts as a venue to organize and host four scientific fora to promote transdisciplinary research dialogue concerning the environmental, economic, and social aspects of sustainability in the Arctic focused on the identification of solutions.

A crucial feature of the Academy is that it brings together senior researchers, early career scientists, practitioners, Indigenous leaders, and the next generation of researchers from across the Arctic and beyond. These intellectual exchanges are rooted in place-based experiences and interactions with local rightsholders as well as stakeholders from companies, governments, and civil society. By facilitating these interactions, the Academies aim to develop networks that can sustain longer-term empirical research, promote information and knowledge-sharing, and lead to tangible solutions to achieve a just transition to renewable energy and sustainable resource management in the Arctic. At the same time, the Academies advance interaction between Academy participants and members of the Thematic Network as well as researchers at the host institutions.

Two Academies have been held to date. The first took place in Finnish and Swedish Lapland in 2022, hosted by University of Helsinki. With a focus on exploring the



Drumming and smudging ceremony for the opening of Doig Day in the 2023 Academy.

PHOTO : GIUSEPPE AMATULLI

Participants at the 2022 and 2023 Academies.



PHOTOS: GIUSEPPE AMATULLI



“ The learning experiences the Academies offer are highly valuable for junior researchers.

energy transition in the region, the Academy included wide-ranging transdisciplinary discussions and field visits to Kiruna, the site of the largest underground iron ore mine in the world, and to Piteå, the location of what will be the largest wind park in Europe with over 1,100 turbines. The possibilities for a socially responsible transition which empowers local communities as well as addressing climate change challenges were the subjects of lively debates and investigations.

In the second Academy, held in Prince George, Canada and hosted by the University of Northern British Columbia (UNBC) in 2023, the main goal was to provide insights on sustainability challenges in the Canadian context, intertwined with First Nations’ rights, resource exploitation, and changes affecting Indigenous communities in Canada. As UNBC Chancellor Darlene McIntosh, an Elder with the Lheidli T’enneh Nation, highlighted in the opening remarks, it is fundamental to conduct research on sustainability and Indigenous-related issues

with an open mind and positive attitude to find answers to the many challenges of the current world. The Academy is informed by a similar line of thinking.

Central to the 2023 Academy’s goal were a keynote speech by Chief Joe Alphonse from the Tsilhqot’in National Government on “Indigenous worldview and Aboriginal Title” and the hosting of a delegation from the Doig River First Nation. Shona Nelson (Band Manager of Doig), Garry Oker (previous Chief and current councillor) and Levi Davis (community and staff member) agreed to come to Prince George to offer us cross-cultural training and provide updates on what the Doig River First Nation has achieved during recent years in terms of socio-economic development and ensuring cultural continuity in the face of intense industrial development in Northern British Columbia and the province of Alberta in areas adjacent to the First Nation’s territory. The original plan to undertake a field visit to the Doig River First Nation had to be hastily revised as wild fires in that region prompted

evacuation orders. This brought home the immediacy and scale of the climate crisis in stark fashion to all Academy participants.

To foster dialogue and learning taking into account different perspectives, we also organized a roundtable discussion focused on sustainability, the green transition, and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). This was held as an open discussion among policy-makers and practitioners from different First Nations, research institutes, NGOs, and municipal and provincial governments.

Evaluation comments from participants demonstrate that the learning experiences the Academies offer are highly valuable for junior researchers. Agricultural University of Iceland PhD student Maria Wilke summed it up: “I found it so rewarding to come together with so many different people from around the Arctic and beyond the Arctic. We all have some sort of connection to Arctic landscapes or people.” UNBC PhD Student Ann Doung added: “The Academy featured a considerable number of participants with backgrounds in law, policy and social sciences. The conversations and discussions really offered insights into ways to empower younger generations to create a more significant positive influence within their communities and to become involved in leadership positions.” The Academy also serves as a knowledge hub for others; as the Thematic Network lead Karin Buhmann noted, “we, as faculty, learned as well.”

The next two Academies will be hosted by Memorial University of Newfoundland in 2024 and by the Copenhagen Business School in 2025.

To apply and read more, visit <https://uarcticacademy.wordpress.com/>



Arctic Sustainability Transformation

– What Is it, What Can It Be, and What Does It Need to Be?

By JANINA PRIEBE,
Arctic Five Chair in Environmental History,
Associate Professor, Umeå University

In our collaboration within the Arctic Five Chair initiative, we have set out to explore what sustainability transformation means in various Arctic regions, sectors, and cultures. Both the notions of sustainability and transformation have commonly been accused of denoting universalized ideas that disregard historical, cultural, and geographical particularities. Without attempting to find a definitive answer, we brought together researchers who look at Arctic change from different angles and disciplinary perspectives, and at different scales of change. To start with, what does Arctic sustainability transformation actually mean?

We have entered a new phase in how we consider and seek to govern the fate of the planet in these increasingly unpredictable times. Everywhere in the world, relationships within societies and environments, and between humans and nature, are rapidly changing. The notion of sustainability transformation generally captures both the

challenges of these disrupted relations and the profound solutions to restore them at a global scale, but the Arctic in particular is seen either as a hotspot for hope and possibilities, or as a social and ecological flashpoint under increasing pressure of resource use. What, then, is Arctic sustainability transformation? And what can or does it need to be?

The call for sustainability and the goals of making resources last longer and distributing them equally is not considered enough. The new call to arms is for “transformation”, which can be understood in two different ways. In its first interpretation, the word “transformation” is used without reference to a specific end state or solution. Here it is often understood normatively, describing ongoing and deep changes in societies in order to make their relationships with environments less damaging, less exploitative. These changes are not about improvement and development of what is already there, but about taking a



Read the booklet:
<https://umu.diva-portal.org/smash/get/diva2:1800194/FULLTEXT01.pdf>

With thanks to booklet editors Hanna Lempinen from Natural Resources Institute Finland (Luke) and Hanna Vikström from Luleå University of Technology

new direction, a change of means and attitudes. The second interpretation considers the word “transformation” to refer to the fact that societies and environments have already been fundamentally altered because of climate change and ecological crises brought on by industrial activities. From this perspective, transformation is viewed as a new reality of radically changing, often unpredictable conditions resulting from profoundly altered forms and functions of human and animal life.

The first lesson we draw from the researchers’ reflections we collected is the need to rethink sustainability and sustainable development from the many Arctic viewpoints. While covering primarily work in and with Arctic societies and environments in Northern Europe and North America, we were amazed to see the variety of entry points researchers use to better understand sustainability challenges in the Arctic. This includes reflecting on our own disciplinary boundaries and the need to be

radically interdisciplinary when working in and with Arctic issues. For people living in Arctic regions, the lofty agenda of sustainability transformation is, as some researchers describe it, not perceived as actionable. What would be truly transformative would be a fundamental decolonization for Indigenous communities, and with it, a focus on the needs of all communities.

The second lesson is that change in the Arctic can take the form of a particular blend of tradition and modern technology, such as in reindeer herding, and whale and seal hunting in Greenland. By adapting to new conditions, traditional livelihoods are kept alive, not distorted. Moreover, living in and with the cold is a special condition for all people living in the Arctic, and changes in the cold and how it can be used for livelihoods and recreation will affect lifestyles in all communities.

The third lesson is that justice is a major concern in all communities and across all

geographic scales. Justice is needed in local and national infrastructure, such as energy, roads, and transportation. It is not only about access to such infrastructure, but also about who owns it and who has the right to control it. In the Arctic, these infrastructures are avenues for development and the lack of it, or the injustices that result from it. Justice is therefore even more important in determining what the sustainability transformation will look like.

The diverse scholarly backgrounds of the researchers who joined our effort to reflect on Arctic sustainability transformation mirror the complexity of the actual challenges Arctic societies face. We hope that the perspectives offered in our joint booklet open new ways of thinking – not only about what Arctic sustainability transformation currently is, but what it can be and what it needs to be to ensure that transformations are truly sustainable.

Indigenizing Arctic Research

A Collaboration to Promote
More Inclusive and Equitable
Arctic Research Planning

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In September 2023, our team of three Arctic Indigenous scholars and three non-Indigenous scholars in the US and Canada was awarded \$300,000 from the US National Science Foundation (NSF) for a two-year project entitled “Indigenizing Arctic Research.”

The funding supports convenings of Arctic Indigenous Peoples in dialogues intended to guide international, high-profile Arctic research planning processes – specifically the 4th International Conference on Arctic Research Planning (ICARP IV) and 5th International Polar Year (IPY 5) – in their development of more inclusive, equitable, Indigenous-led, and Indigenous Knowledge-centered Arctic research protocols. Our application was co-developed through a series of informal online dialogues with several groups of Arctic Indigenous knowledge holders prior to submission, and we were also honoured to receive formal letters of support from three Arctic Indigenous Peoples’ organizations: the Inuit Circumpolar Council, the Saami Council, and the Aleut International Association.

Our activities to date and their positive reception have exceeded expectations. The NSF grant allowed us to host three events – a standing-room-only presentation and two convenings with over 30 Arctic Indigenous Knowledge holders – at the 2023 Arctic Circle Assembly (ACA) in Reykjavík, Iceland. Indigenous participants in these dialogues shared their clear intentions that the future of Arctic research and research priority-setting activities of ICARP IV and IPY 5 must prioritize (i) the forging of meaningful collaborations between Western and Indigenous Knowledge systems; (ii) the need to equitably fund Arctic Indigenous community engagement and knowledge co-production; and (iii) the recognition by Western research systems that Indigenous Knowledge must be represented and valued in all Arctic knowledge creation and informed Arctic policy. Aka Simonsen, Site Manager of the Kujataa UNESCO World Heritage site in Greenland, also shared the concerns of many in the Arctic about increasing “research fatigue” when these principles of

respect and collaboration with Indigenous Knowledge holders are not recognized or practiced.

Another critical outcome of the two ACA convenings was the development of an Indigenous-led formal letter to the President of International Arctic Science Committee (IASC) who serves as the Chair of the ICARP IV International Steering Committee, emphasizing the interest of Arctic Indigenous Peoples in having opportunities for equal voice in the ICARP IV research priority-setting process. While the ICARP IV process already includes Arctic Indigenous Peoples organizations as founding members of the International Steering Committee, the letter asked that the process further elevate Indigenous representation in highest-level decision-making. This was a new request and has been well received by the ICARP IV leadership, launching several excellent conversations and ongoing dialogues.

In addition to supporting the development of the letter, the three Arctic Indigenous scholars leading our project team worked diligently in fall 2023 to build the number of Arctic Indigenous Knowledge holders directly engaged with the ICARP IV process. They distributed personal requests for Arctic Indigenous Peoples’ engagement on the six ICARP IV Research Priority Teams

and followed up on all inquiries. We were thrilled to recently learn that 17% of all applications to the Research Priority Teams – almost one in five applicants – were from Arctic Indigenous Knowledge holders.

Our team looks forward to hosting continued conversations, presentations, and dialogues about our work. We will also arrange additional convenings of Arctic Indigenous Knowledge holders, including those now formally engaged in the ICARP IV Research Priority Teams, to see how they can best collaborate with IASC and ICARP IV leadership to support the work. We hope that this process, supporting the interest of Arctic Indigenous Peoples in holding structural, decision-making roles in programs for Arctic research planning, will become the norm for all future Arctic research and funding. We believe this approach is also one that aligns with Arctic Indigenous Peoples’ right to self-determination, as called for in the UN Declaration of Rights of Indigenous People (UNDRIP). Ultimately, we hope that our work to develop more inclusive, ethical, and equitable structures to engage both Western science and Indigenous Knowledge in ICARP IV and IPY 5 will support a paradigm shift in which all future Arctic research will prioritize the co-design, co-development, and co-production of knowledge that we need to address our shared challenges.

“
We need co-design, co-development, and co-production of knowledge to address our shared challenges.

New UArctic Research Fellowship Program

Safety in the Maritime Arctic

By STEPHEN HEAL,
Member of the President's
Cabinet and Fellowship
Program Team, UArctic

“What do you think we will find in here?” I ask Svein as we stand outside an 18th-century naval arsenal in East London that houses the archive of Lloyd’s Register Foundation. Svein Buvik served as a Captain in the Norwegian Navy, patrolling Northern Norway’s coastline in the 1990s, and has joined me on this visit. “Untold Arctic histories,” he replies as we enter the vault to meet members of the Foundation’s heritage team.

Svein now sits on the Board of the World Maritime University in Malmö, Sweden and is helping UArctic develop an exciting new partnership with Lloyd’s Register Foundation. The Foundation is the sole shareholder of Lloyd’s Register, a classification society that has been ensuring the world’s ships are safe to sail since the 1760s. These days the Foundation is run with a mission to “engineer a safer world”, and it funds research and interventions around the world related to maritime safety, alongside a range of

other global safety priorities including supporting safe and sustainable infrastructure and building capacity by promoting engineering skills.

Together with the Foundation’s Heritage and Education Centre, UArctic is launching a new research fellowship program that is open to all UArctic members. The Foundation has funded the program to support research under the brief “maritime safety: learning from the past to address challenges to the safety of peoples in the Arctic.”

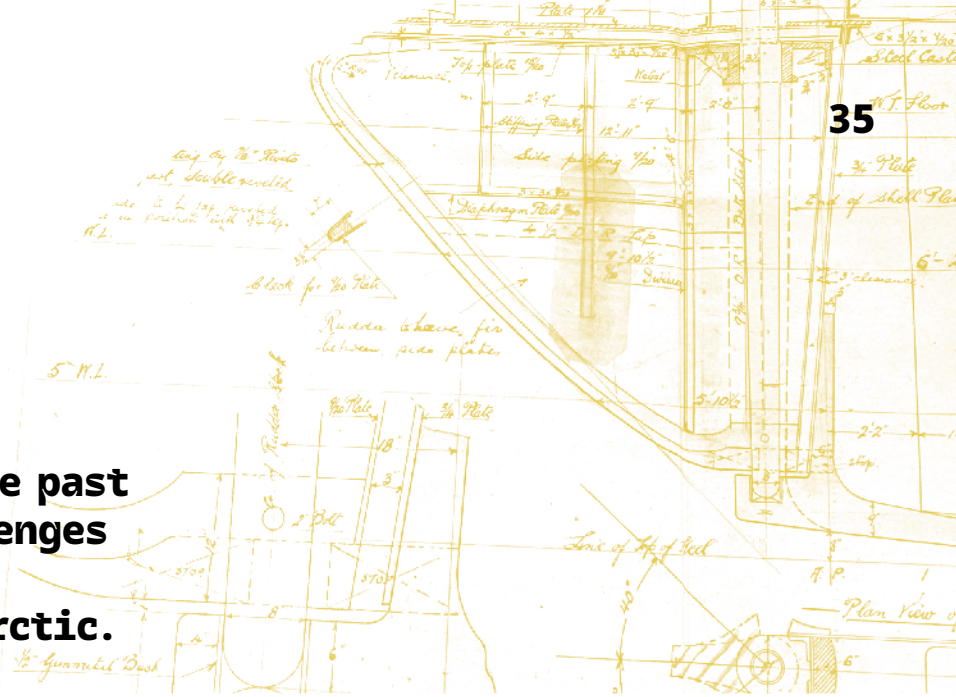
We know that the maritime Arctic is undergoing profound changes. Climate change is reducing sea ice cover, opening up new sea routes, and affecting the distribution of commercial fisheries, as well as impacting global weather systems. We have seen a steady increase in ship traffic of all kinds across the Arctic. More fishing vessels, merchant ships and cruise ships are traveling further each year in the Arctic according to experts from the Arctic Council’s

Working Group on Protection of the Arctic Marine Environment (PAME). This presents both opportunities and challenges for Indigenous and local communities, such as communities in Inuit Nunangat or commercial fishing communities in Iceland. It also presents new risks to the environment and to the safety of the people onboard ships.

Alex Stitt, Director of the Lloyd’s Register Foundation Heritage and Education Centre, explains why it is important that this work is being done now. “We have an opportunity to learn from changes in the past to help us better navigate the changes of today, and do so in a way that is more equitable and inclusive. Shipping has undergone transitions from sail to steam and from steam to fossil fuels – and the next energy transition is upon us.”

Over the past year, a small team led by UArctic Vice-President Research Gunnar Stefánsson has been working with a multi-

Learning from the past to address challenges to the safety of peoples in the Arctic.



disciplinary expert group to shape the new fellowship program and define the topics for its first call for proposals. The team held seminars with the expert group in Reykjavik and Malmö. The expert group consists of both members of UArctic Thematic Networks and representatives from the maritime industries including fishing companies, port authorities, shipping insurers, PAME, and policy-making organizations such as the International Maritime Organization. They all contribute to enable as broad a view as possible of the research needs and priorities, and will also be an important part of the audience for the research outputs.

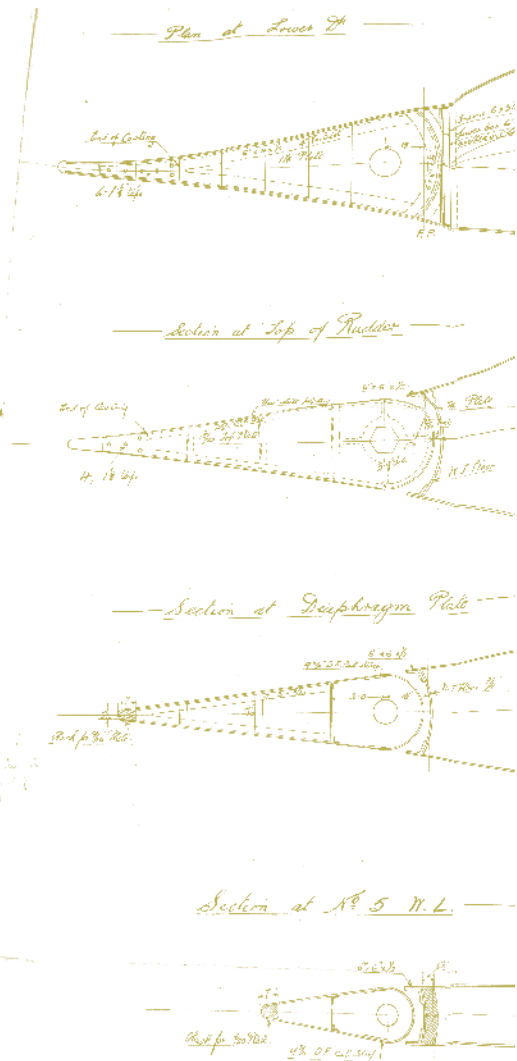
"I am very happy to be leading this program, because I can see that the Fellowships will be able to harness the UArctic network to produce better research. Their work will be brought to decision-makers and audiences through both UArctic and Lloyd's Register Foundation to help improve safety for the peoples in the Circumpolar North," Gunnar says.

The new UArctic x Lloyd's Register Foundation Fellows will not only receive funding for their work over two academic years, but they will also benefit from access to resources offered by program partners alongside the core Foundation funding and its archive. The Heritage & Education Centre holds over 1.1 million Ship Plan and Survey Reports as well the Register of Ships, Rules and Regulations, and Technical Association Papers. The Fellows are asked to produce their individual research papers plus contribute to a collaborative paper. Combining this with access to UArctic Chairs and relevant UArctic Thematic Networks should make it a truly cross-disciplinary research program.

Is it significant for UArctic to have started this partnership with a maritime-focused foundation? "The Arctic local and Indigenous Peoples live on and around a shared ocean. Navigating it safely is a challenge, but also a skill developed over thousands of years by the Indigenous Peoples of the Arctic. Working together with Indigenous knowledge holders in co-created projects could create outcomes beneficial for all Arctic residents," says Kirsi Latola, UArctic Vice-President Networks and a member of the program design team.

The first call for research therefore highlights three interlinked topics: "ice histories" and the opportunity to integrate historic perspectives and insights into sea ice with the modern technologies and regulations that guide shipping today; "safely navigating new sea routes" and the opportunity to learn from experiences of opening up new sea routes in the past as further routes are now developed (the Northern Sea Route and the North West Passage); and "cruise ships in the cold" as a specific case of new maritime traffic in the Arctic that raises not only opportunities but also safety concerns and challenges to local infrastructure and its capacity to respond to incidents.

As we explore the archive, Svein and I are shown the ship surveys and wreck reports of an innovative Canadian Arctic icebreaker built by a British shipyard in 1908 that worked during both world wars. "Now there's an Arctic story to be told," I say to Svein. I then wonder out loud if research fellowship meetings could be held here in this labyrinthine archive. Louise Sanger, Head of Research, Interpretation and Engagement at the Foundation's Heritage and Education Centre, replies: "Of course, your Arctic researchers will be most welcome."



Ilinniaga

Reflections Throughout

Aqqu

Eqqarsaa

Allattoq: LINDA LYBERTH KRISTIANSEN,
UArctic International Secretariatimi suliffimmik
misiliinikoq, Kandidatitut ilinniartoq,
Ilisimatusarfik - Grønlands Universitet

Nunatsinni peroriartorpunga kalaallisut oqaatsit ilitsoqussaralugit. Taamaakkaluartoq, qaffasissumik ilinniagaqarnerup tikikkiartornerani danskisut oqalussinnaaneq paasilluarsinnaanissarlu piumasaaqatinnngoraluttuinnartarput. Ilinniartitaaneq nunatsinni tassaasussaavoq naalagaaffinngornissap ilusilersoriartornerani toqqammaviliisussa. Kalaallisut oqaatsigut kinaassutsinnut, oqaluttuarisaanitsinnut aammalu siunissatsinnut atassusiisupput.

Ilisimatusarfimmi bacheloriliorinninni inaarutaasumik misilitsissutitut allaaserinikuuara "Nunatsinni Nunat Inoqqaavisa Pisinnaatitaaffiisa Inissisimaneri", naalakkersuinikkut aammalu inuiattut aqqjissuussaanerup iluani. Inaarutaasumik misilitsinninni oqaatsit ilitsoqussakka atorlugit allaaserinnippunga, kalaallisut. Tamannali sorsuutiginikuuara pingaartillugu takutinnissaa ilisimatusarnikkut nammineq oqaatsigut inissaqartinneqarnerusariaqartut isumaqarama.

Ilinniarninni aqqusaartuartarpara nunaqaaqaartutut pisinnaatitaaffitta ilisimaneqarneri aammalu pingaartinneqarneri killeqartut, inuiaqatigiit akornanni aammalu naalakkersuinerup iluani. Eqqarsartaatsikkut nunasiaataasimanerup kingunerisaanit kalitatta aallaavii takusinnaalerutsigit, nunatsinni ilinniartitaanerup nammineq ilusilersornissaa anguniarlugu oqaatsigut aallaavigalugit ingerlatseriaaseqarnissaaq aallunneqarnerusariaqarpoq, ilisimatusarnerup iluani. Taamaasilluta ataatsimoortumik kinaassutsitta ilinniartitaanerup iluani ilusilersornissaa, kinaassutsitsinnit aallaaveqartumik nammineq paasinnittariaaserput malillugu ingerlatseriaaseqarnissaaq pingaartinnerusariaqarparput inissaqartillugulu.

Norges Arktiske Universitetimi, Tromsømi ilinniarninni, issittumi nunaqaaqaartut oqaluttuarisaanerat ilinniagarinikuuara. Tamanna aallaavigalugu specialiliorinninni sammivara nunat inoqqaasut oqaatsit aallaavigalugit ilisimatusariaaseqarneq.

qarnerma

taani

My Education in the Arctic

tersuutit



By LINDA LYBERTH KRISTIANSEN,
Former UArctic Intern, Master's
Student, Ilisimatusarfik /
University of Greenland

In Greenland, we are a population that grows up speaking Greenlandic, our native tongue, but the further we go in the education system, the more we are obligated to operate in Danish. Education is the next vital frontier in our process of independence and building our capacities in terms of institutions.

Indigenous languages are foundational to identity, cultural heritage, and to our future as a people. In my Bachelor's thesis, I wrote about Indigenous Peoples rights' status and utilization in Greenland in the governmental level. I wrote my thesis in my native language, Kalaallisut (Greenlandic). It was mainly to make a statement for my rights, for my language to step up in academia. I have researched and experienced throughout my education that Indigenous rights are not valued and not known well enough in our local communities, in the governmental level, as well as in other institutions and authorities. By decolonizing our own mindsets and making more space in the educational system

for our Indigenous languages, we strengthen our sense of who we are in our own terms. Instead of (mis)understanding ourselves in other cultures' terms, we develop frameworks of our own.

During my semester at UiT The Arctic University of Norway, I decided to follow the path of Indigenous-related issues in the Arctic, especially in the Circumpolar North. I am currently working on my Master's thesis, focusing on the implementation of Indigenous languages in academia. I analyze the utilization of Greenlandic at Ilisimatusarfik (University of Greenland), as well as Sámi languages at Sámi Allaskuvla (Sámi University of Applied Sciences) located in Kautokeino, Norway. In my thesis I compare how they implement their own native language in their higher education, and to what extent.

In addition to my personal and professional development during my studies in Norway, I also had the opportunity to work with Arctic-related programs, such as the Indigenous Youth Leadership Workshop with other Indigenous youth from northern countries. That



Indigenous languages are foundational to identity, cultural heritage, and to our future as a people.

Misissuinnilu iserfigaakka nunaqaqqaartutut ilisimasat najoqqutaralugit ilisimatusariaatsit. Allaaserisap imarivaa nunatsinni Ilisimatusarfimmi, kalaallisut oqaatsitta qanoq ilinniartitaanerup iluani atorneqarneri, aammalu illoqarfeeqqami Kautokeinomi Norgemiittumi, Sámi Allaskuvla - Sámi University of Applied Sciencesimi, Saamit oqaatsitik atorlugit namminneq nunaqavissutut ilisimasatik aallaavigalugit ilinniagaqassusaanut sanilliullugu.

UArctic International Secretariatimi, Rovaniemi, Finlandimiittumi suliffimmik misiliinikuuninni, nukimmik annertuumik tunivaanga inuiaqatigiinnitta akornanni alloriarusussusermik. Qujamasunnarpoq UArcticimi sulininni soqutigisakka aallulluarsinnaagakkat. Tamanna ineriartuutigingaarpara inuttut aammalu anguniakkamma tungaatigut. Taamaakkaluartoq, nunaqaqqaartutut ilinniagaqarluni oqitsuinnaaneq ajorpoq. Takusinnaasagut allat takusinnaaneq ajormatikkit. Kisiannili naleqassusaa uaniippoq, ilinniartitaanerup iluani suut amigaataanersut aammalu tamakkiisumik naleqartitatta takutinnissai pingaartittarsigit, uagutsinnit aallaaveqartumit.

Isiginnittariaatsit pilersartut ilusilersorneqartarput misigisatsinnit aallaaveqartumit, tamakkulu ilutigaaq ilisimatusarnikkut misissuariaatsit. Taamaattumik nunatsinni uagutsinnit aallaaveqartumit ilinniagaqassutsikkut pinngorartitsineq ilusilersortariaqarparput, kalaallisut oqaatsigut sakkugalugit. Nunasiataasimanerup kingunerisai ullutsinni suli atuuttut apeqquersunngikkutsigit allannguavianngilagut, ilutsinni aammalu avatangiisitsinni.

Ilinniagaqarnerma aqquataani, avataanit apeqquersorneqarnerit imaannaanngissimapput, taamaakkaluartorli peroriartorninni tarrarsorfigisinnaajuannakkakka tassaapput arnat inuuninniittut. Aqqutissiuussisuupput soqutigisamma aalluttuarnissaanut ilusilersueqataangaatsiarnikuullutilu. Taakkuupput eqqaasitsuaannartut suminngaaneerninut kinaaninnullu. Tunniutiinnanngisaannarnerisa ilumoorussuarnersalu, ullumikkut killiffigisannut sunniuteqangaatsiartuupput.

Linda Lyberth Kristiansen 25-inik ukioqarpoq Nuummili inunngorluni. Nunat inoqqaavisa oqaluttuarisaanerat UiT Norges Arktiske Universitetianni ilinniagarinikuuaa Tromsømi, Norgemiittumi. Siornatigut ICC-mi suliffimmik misileereernerata kingunerisaanit, nunanut issittunut sammivillinnik suliniutinik aallussisalerpoq, pingaartumik nunaqaqqaartut oqaasii aammalu pisinnaatitaaffiinut tunngasut uukkataralugit. UArctic International Secretariatiani Rovaniemi, Finlandimiittumi suliffimmik misiliinikuuvoq, kandidatitut specialiliani, nunaqavissut oqaasii aallaavigalugit ilinniagaqassusermik misissuini ingerlatiitigalugu.

gave me various opportunities, which also led me to my internship at the UArctic International Secretariat. This chance has given me strength to work more for my people. I am very grateful that UArctic gave me the opportunity to express my passion on an international level, and the opportunity to grow and evolve every day.

It can be difficult as an Indigenous scholar to study Indigenous matters, because it is so reflective. But the value of being an Indigenous scholar is that it allows us to see what is missing and needed in academia, to make that visible, and to highlight what is meaningful with respect to Indigenous peoples' own understanding of themselves and the world.

The view in which one sees the world is shaped not only by one's personal and relational experiences, but also by the theoretical and methodological perspectives in research. Greenland needs to indigenize their own history through strengthening their native language in the education system. You cannot change anything without fighting colonialism within us and within our surroundings.

I am surrounded by strong and vulnerable women, who have had a significant impact throughout my path. They never give up and stay true to themselves. Those women in my life are the reason for what I do. They are the reason why I never lose sight of where I come from.

Linda Lyberth Kristiansen is a 25-year-old Inuk woman from Nuuk, Greenland. She currently studies Cultural and Social History at Ilisimatusarfik / University of Greenland, and was previously an Indigenous Studies graduate student at UiT The Arctic University of Norway in Tromsø. Her previous internship at the Inuit Circumpolar Council has led her to many roles focused on Arctic policy and Indigenous peoples' rights, as well as cultural inclusion and improving resiliency and mental health for Indigenous peoples.

For a stronger North

Building knowledge for a strong,
engaged and dynamic North

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