



SKILLS AND KNOWLEDGE -HAND IN HAND TOWARDS THE FUTURE

The changing Arctic needs youth with both traditional and academic knowledge.

GROWING DEMAND FOR ENGINEERS WITH ARCTIC EXPERIENCE

New programs equip students with the skills needed for cold climate engineering.



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The UArctic Magazine Shared Voices 2018

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Letter from the President

By **LARS KULLERUD**President, UArctic



n January 2018 some 60 academics from the University of the Arctic (UArctic) Thematic Network on Geopolitics and Security nominated the Arctic Council for the Nobel Peace Prize. UArctic is a child of the Arctic Council cooperation, which in turn is one of the outcomes of the 1987 Murmansk speech by the Soviet leader Mikhail Gorbachev – the speech that led to a surge in East-West collaboration in the Arctic.

Over the years Arctic cooperation has expanded from environmental issues to cover many areas of people-to-people, academic and economic cooperation. In spite of recent global challenges the Arctic has remained a zone of peace and cooperation, as stated by president Putin in his annual Arctic Conference. While challenges do have an effect on Arctic cooperation on a daily basis, the will to collaborate remains strong. An example is the new binding agreement on scientific cooperation in the Arctic that has now been ratified by all Arctic countries and came into force in May 2018 as a main result of the US Arctic Council Chairmanship.

Adaptation to climate change and dealing with the impacts of globalization are at the core of a sustainable future of the Arctic. People-to-people collaboration is crucial if we are to find solutions that bring hope and prosperity for the coming generations, while still preserving the qualities of the strong northern cultures. It is also essential that we who work in and for the Arctic take to heart the importance of northern relevance in education and training of professionals, academics and future leaders of the North. UArctic is the framework for such joint efforts, and we will continue to build

"The will to collaborate remains strong in the Arctic."

locally and regionally relevant tools that enable collaboration between people and institutions of the North.

During a time when international politics challenge the Arctic collaboration, it is more important than ever that the academic community become flagbearers for science diplomacy. When we are successful there is also hope for the governmental collaboration in the Arctic, and the Arctic can continue to grow as a zone of peace and collaboration where people, governments, regional authorities and academia all contribute to our common future.

The successful Arctic Council is indeed a worthy Nobel Peace Prize nominee, and with continued success it can serve as a model for many other regions in the world.

EDITORIAL

By **OUTI SNELLMAN**, Vice-President Organization, UArctic

UArctic was initially built on the concept of collaboration in higher education, specifically education in and about the Circumpolar North. Over the past twenty years we have grown in size and breadth of activities, but at the same time never losing sight of our original vision. This is why UArctic seized Finland's offer to collaborate with the Arctic Council when Finland started to prepare its chairmanship program. The Education priority provided a natural way for us to join forces with the government in raising awareness and competency on the role of education in the sustainable development of the Arctic region. It was also an opportunity for us as an organization to reflect on the role of education and our focus on it in all its forms.

This magazine is a part of the reflection process. We start with articles on the political and organizational framework by Finland's Minister of Education Sanni Grahn-Laasonen and UArctic's Vice-President Academic Mike Castellini. These are followed by more concrete pieces providing examples of the different forms and roles as well as the unique features of education in the Arctic. As Tuija Turunen, the lead of the UArctic Thematic Network on Teacher Education, states in her article, "in education one size does not fit all." This is especially true in the Arctic.

Finally, we look at education from a more global perspective with Hilligje van't Land and Stefanie Marrow's article on (Higher) Education for Sustainable Development. They point out that UN's Sustainable Development Goal 4, Quality Education, calls for "all learners to acquire knowledge and skills needed to promote sustainable development." This is a clear challenge to all educational organizations, not least UArctic with a sustainable future for the Arctic as its core goal.

The many student experiences scattered across the magazine tell the stories of different educational paths, often involving mobility. Student mobility from one North to another is perhaps the most efficient way to increase understanding of the region, its diversity and shared challenges. Without these faces that look to the future it would be harder to understand the many shapes that education takes.

Enjoy the magazine!





UARCTIC CONGRESS 2018

SEPTEMBER 03 - 07, 2018
OULU & HELSINKI, FINLAND

The biennial UArctic Congress assembles key
UArctic meetings and a science conference into
one single gathering. The UArctic Congress 2018
begins in Oulu on September 3 and concludes in
Helsinki on September 7.

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The UArctic Congress 2018 is part of
Finland's Arctic Council chairmanship
program, and open to the public.
The event highlights the themes and
priorities of the Finnish chairmanship
(environmental protection,
connectivity, environmental
cooperation, education), including
the goals of the United Nations'
2030 Agenda for Sustainable
Development, supporting gender
equality, and the Paris Agreement
under the UN Framework
Convention on Climate Change.

With the aim to foster contacts and enhance networking, the **UArctic Congress brings together** institutional leaders, indigenous representatives, academics, scientists and students from around the Circumpolar North and beyond. It is an excellent platform for all UArctic members to engage with each other and promote cooperation in circumpolar science and higher education. Together with partners, policy makers and other actors, the UArctic Congress strives to take the Arctic agenda forward by creating and strengthening collaborations that produce new findings and solutions for the future of the Arctic.

#UARCTICCONGRESS2018

THE UARCTIC CONGRESS 2018 FEATURES SCIENCE AND MEETING SECTIONS, INCLUDING:

- Sessions aligned with the four priorities of Finland's chairmanship
- Acclaimed keynote speakers and scientific experts presenting their views and latest research
- UArctic meetings for representatives of the Council,
 Thematic Networks, and rectors
- Side meetings and events
- An exciting cultural and social program

CONGRESS.UARCTIC.ORG



EDUCATION

AN ESSENTIAL PART OF ARCTIC COOPERATION

By **SANNI GRAHN-LAASONEN**Minister of Education, Finland

inland's chairmanship of the Arctic Council in 2017–2019 is at full speed. In addition to education, the priorities of Finland's chairmanship are environmental protection, meteorological cooperation and connectivity. In the chairmanship program Finland also identified two broad frameworks in Arctic cooperation. One is climate change – mitigation, adaptation and building resilience. The other is sustainable development, utilizing the goals set in the United Nations' Agenda 2030.

While we were preparing for the chairmanship, UArctic was approached to support a theme that is vital for sustainable development: education. This idea was received with great enthusiasm by UArctic, and UArctic was also instrumental in putting together a considerable project through its teachers and educators. I would like to congratulate the UArctic Thematic Network on Teacher Education for Social Justice and Diversity in Education for having recently received a positive response from UNESCO for their application to become a UNITWIN network – the first of its kind in Finland.

Education is an essential theme in Arctic cooperation. Finland is one of the model countries in providing high-quality, equal

education to all children in the country. The Sámi communities in Finland, Sweden, Norway and Russia are also actively cooperating in this field.

It is a pleasure that a Model Arctic Council will be held in Rovaniemi, Finland in October 2018. This simulation project brings together higher education students and institutions from Arctic countries and highlights education as a priority during Finland's chairmanship. The project will strengthen the platform of institutional and educational development.

Science and research always go hand in hand with higher education. The legally binding agreement on scientific cooperation was signed between the Arctic countries in May 2017, and entered into force in May 2018. Another major achievement is the second Arctic Science Ministerial to be held in Berlin, Germany in October 2018, a meeting that Finland is co-arranging.

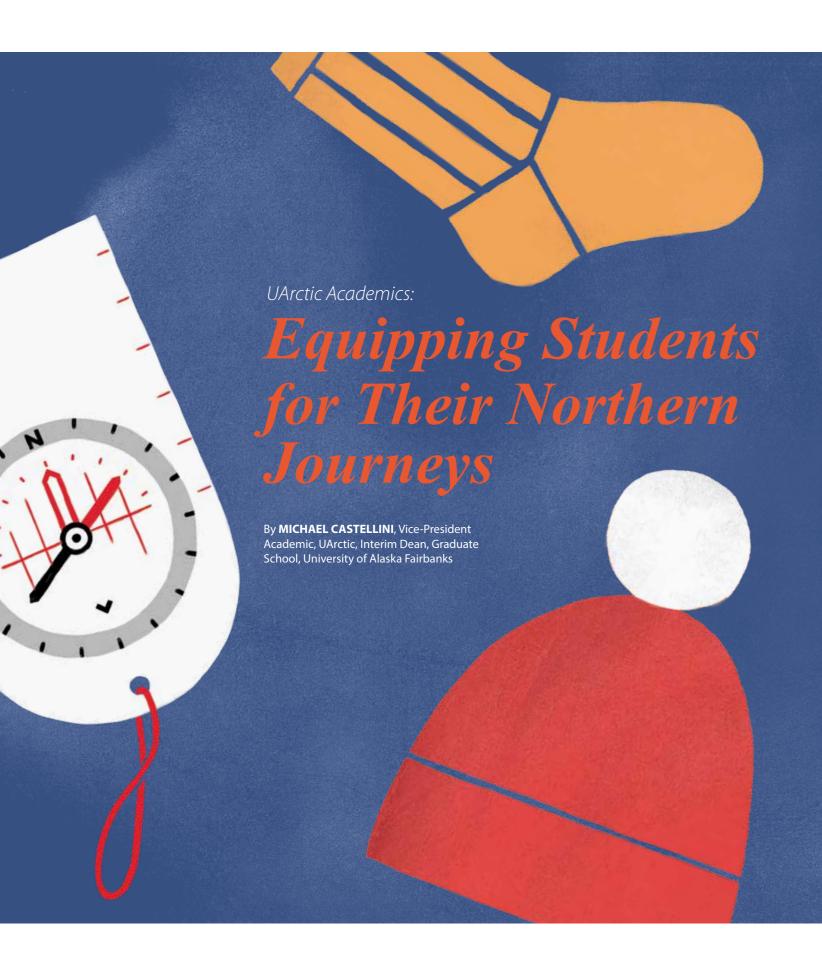
It is well known and acknowledged that UArctic is much involved in state-of-the-art Arctic science. One of the topical matters is resilience. The Arctic is changing, and we should be prepared to address the needs that come with the changing circumstances. The local people should stay safe and prosperous. Research on and new

knowledge of the environment and society must be key inputs in decision-making.

It is a joy that the UArctic Congress 2018 will be held in Finland, in Oulu and Helsinki, in September 2018. I am sure that the Congress participants will take the Arctic agenda forward by creating and strengthening collaborations that produce new findings and solutions for the future of the Arctic region.

UArctic, the University of the Arctic, is an outstanding part of Arctic cooperation.

"Science and research always go hand in hand with higher education."



rom an academic perspective, a major goal of UArctic is to develop and provide pathways that allow students to learn more about the North, its peoples and its environment. While most students involved in UArctic are from the North, there are many from other nations that are not polar but have a keen interest in northern issues.

Our approach to UArctic academics is to work with our 200 member institutions to provide classes, programs and study opportunities to all who are interested. UArctic itself does not provide degrees, teach classes or have faculty members, but relies on its member institutions to deliver programs through their own faculty and degree programs.

Throughout this magazine there are stories of individual students and their journeys in northern studies. Many of these are unique pathways of study, but they all share a common UArctic approach that we provide and support. There are five major themes found in UArctic academic programs:

1. ACCESS

Regardless of the subject area that a student may be interested in investigating, there must be access to that field of study. If a student wants to study international polar law related to land rights, there must be a way to access classes and faculty within the UArctic network. We highlight a wide range of opportunities through the UArctic Study Catalogue that are available to all students, either as on-site or online studies.

2. RELEVANCE

of UArctic is to develop and provide pathways that allow students to learn more about the North, its peoples and its environment. While volved in UArctic are from Classes are relevant to northern or polar studies. Courses in business models for equatorial water development would not be in high demand, while courses in water health issues in remote northern communities would be highly relevant.

3. AWARENESS

If classes are both accessible and relevant, they directly lead to awareness of northern issues. There are significant concerns about food security, health, transportation, land use, resource development and many others in northern communities. It is vital that an academic pathway exists so that the awareness of these issues can be expanded both inside our member institutions and beyond to the public and leaders around the world.

4. EDUCATION

Education about polar issues must extend beyond the world of sound-bites, 24-hour news cycles, billboards and bumper stickers. Only when a student is educated about these topics do they begin to understand the depth, complexities and background behind the headlines. UArctic provides these educational opportunities through academic classes offered by our members, endorsed programs and discussions on special topics.

5. ACTION

When a student has moved through UArcticsupported classes that are accessible and relevant, they begin to understand the need for awareness and have the education in order to take action on those topics. That might include working on a public committee, publishing a story about the Arctic, or becoming teachers themselves. Through action, Arctic concerns can be addressed, advanced, debated and delivered.

The dozens of academic options within UArctic welcome you to join in our Shared Voices and shared stories. Hopefully you will be inspired to find classes and programs that are important to you and relevant to your communities. We urge you to investigate and sign up for some of those courses, study the issues, become aware of the depth of those issues, and finally take action to further your role in the future of the North.



Continuity, Respect, Ownership and Dialogue:

ROAD TO CULTURALLY SUSTAINABLE EDUCATION

By **TUIJA TURUNEN**, Lead of the UArctic Thematic Network on Teacher Education for Social Justice and Diversity in Education, Dean, Faculty of Education, University of Lapland

he past year has been busy in many ways for the **UArctic Thematic Network** on Teacher Education for Social Justice and Diversity in Education. Discussion on the special features of teacher education in the Arctic has continued, and one of the key themes has been culturally sustainable education. In education one size does not fit all; quite the contrary, to cater for local communities, education needs to be culturally relevant.

In late November 2017 the Thematic Network was rewarded with a UNESCO UNITWIN network status. The UNITWIN University Twinning and Networking Programme builds university networks and encourages inter-university cooperation. This is a high-profile acknowledgement and concentrates especially on the United Nations' Sustainable Development goal of "Quality Education. Ensure inclusive and quality education for all and promote lifelong learning." In the future, the network will bring together teacher educators from the North and the South to learn from each other.

"To cater for local communities, education needs to be culturally relevant."

In various sources the features of sustainability are defined as maintaining, supporting, developing, being diverse, prospering, and expressing the greatest potential. From the point of view of education, these can be regarded as aims of high-quality educational practices which promote growth and learning from early childhood to higher education. Highquality education supports gaining full potential and having a balanced life. In the Arctic context, the diversity of cultures and circumstances also brings the demand of culturally sustainable education to the front.

Culturally sustainable education seeks continuity between contexts, home and school, values, generations, and human and nature. Continuity in education means UNESCO status also in the global South. that education is locally relevant and draws from the local assets. It encourages children and young people to be proud of their heritage and take action to both protect and develop it.

Educational practices should respect and celebrate the local and traditional knowledge. Children, young people and their families need to feel that they and their ways of living are respected and regarded as a valuable part of education. They do not have to fit in to the educational settings; rather, what they bring with them is important and precious.

To believe in the importance of education, people need to feel ownership of it. If education is a ready-made product delivered to local communities, it can feel superficial with no real value. Ownership means that the people of the Arctic have their say in educational practices, and see that education respects the local ways of living and is culturally relevant. Local people are the experts of living in the Arctic, and this expertise needs to be part of the curricula and educational practices.

To make this all happen we need dialogue. In dialogue we talk and we listen, and we really hear other ways of viewing the world and understanding it. Dialogue is a mutual learning process to which we bring our often tacit knowledge and understanding of how things are. It gives us an opportunity not only to learn from others but also to learn about ourselves.

With these in mind, the UArctic Thematic Network on Teacher Education will continue its work for and with the Arctic people and communities, and with the

SKILLS AND KNOWLEDGE

Hand in Hand Towards the Future

By **ALENA GERASIMOVA**, Researcher, UArctic EALÁT Institute, Project Manager, International Centre for Reindeer Husbandry and **ODDBJØRG HÆTTA SARA**, Teacher, Sámi High School and Reindeer Husbandry School



We all work with issues regarding knowledge. We all have some skills. Join us in lengra, Sakha (Yakutia) for two days of friendship, competitions and, above all, exchanging knowledge.

engra is located in the Neryungri district, a place of compact settlement of the Evenki indigenous minority. Its population is approximately 1,200 people, of which three quarters are Evenkis. Residents of the village are engaged in reindeer herding, game hunting and fur farming.

About 180 guests from Norway, Yamal-Nenets Autonomous District, Krasnoyarsk Krai, Taimyr, Chukotka and seven regions of Yakutia came to Iengra to participate in the first Arctic Skills event on April 3-4, 2018. The professional championship was held within the framework of the international workshop "Reindeer Husbandry – Basis for Indigenous Livelihoods in the Arctic".

More than 60 young indigenous men and women took part in competitions in five categories: Reindeer Herder; Operation and Maintenance of Motor Vehicles and Generators; Lavvu Keeper; Designing a Reindeer Herding Camp, Lavvu Building; and Stroganina, frozen fish slicing. The competition concluded with reindeer races on the river with 48 reindeer herders competing.

We know that the Arctic is changing, and the Arctic needs youth who can handle many

worlds and be keepers of both traditional and academic knowledge. More than 24 indigenous peoples have developed their unique economy based on reindeer, but face challenges due to loss of pastures, changes in biodiversity, loss of traditional knowledge, and lack of young professionals active in herding. Considering this, the Arctic Skills is an important initiative. The youth need an arena which emphasizes knowledge, and an arena where they can share their knowledge and get inspired by others who also value the reindeer. This way they will build confidence and have important roles in the development of their own societies.

"The Arctic needs youth who can be keepers of both traditional and academic knowledge."

Officials and academics gathered for a roundtable discussion during the Arctic Skills to share their overviews on reindeer husbandry and its state in the different regions, as well as on how education is provided for the reindeer herding youth. In their statement they recommend, for instance, to support the Arctic Skills initiative to include the traditional skills of reindeer herders and values of reindeer husbandry in education systems and training programs. They recognize that indigenous reindeer herders in the Circumpolar North need to improve their sustainability in local communities through product-based entrepreneurship and family-based economy using their traditional knowledge and skills. They also support the development of a new education system to preserve and use the reindeer herders' traditional knowledge and to enhance their skills. In addition, one main outcome of the event was the decision to establish a UArctic Thematic Network within the UArctic EALAT Institute to coordinate Arctic Skills cooperation between educational institutions of the Arctic.



MAIN ORGANIZERS OF THE EVENT

Government of Sakha Republic in cooperation with Association of World Reindeer Herders (WRH), International Centre for Reindeer Husbandry (ICR), UArctic, UArctic EALÁT Institute, the Northern Forum, Arctic College for Indigenous Peoples of the North (Chersky, Russia), and Sámi High School and Reindeer Husbandry School (Kautokeino, Norway)

WINNERS IN THE FIVE CATEGORIES

Reindeer herder: 1st Aleksei Kolesov; 2nd Igor Kolesov; 3rd Nikolai Vasiliev. All three are Evenki herders from lengra, Sakha Republic (Yakutia)

Operation and maintenance of motor vehicles and generators: 1st Vladimir Maksimov from lengra, Sakha Republic (Yakutia); 2nd Petr Avelov from Aldan district, Sakha Republic (Yakutia); 3rd Artur Semenov from lengra, Sakha Republic (Yakutia)

Designing of reindeer herding camp, lavvu building: 1st Aleksei Ukhsek from Chukotka; 2nd Andrey Schetinin from lengra, Sakha Republic (Yakutia); 3rd Dmitriy Lebyodkin from Tyanya, Olekminskiy district. Sakha Republic (Yakutia)

Stroganina: 1st Stepan Tuprin from Yuryung Khaya, Anabar district, Sakha Republic (Yakutia); 2nd Artur Yaptune from Taymir; 3rd Vladimir Sirovatskiy from Chersky, Sakha Republic (Yakutia).

Lavvu keeper: 1st Anna Kolesova from lengra, Sakha Republic (Yakutia); 2nd Aksinia Stolyarchik from Neryungri, Sakha Republic (Yakutia); 3rd Zhanna Tymnenkau from Yakutsk.

Embracing Sámegiella, the Sámi Language

By INGA HANSEN, Master's Student, Sámi University of Applied Sciences

ow was it again? I keep forgetting the Sámi words," whispers the Russian student Roman to his classmate Dine. She replies very fast: "Buorre beaivi, mo manná?" meaning "Hello, how are you doing?"

In Sápmi, they are working towards revitalizing the Sámi language – not only talking about it, but also doing it by their hearts.

I am sitting in the language classroom at Sámi Allaskuvla, Sámi University College, which is also called Diehtosiida – the place of knowledge. We are in the little village of Guovdageaidnu in the Norwegian part of Sápmi, above the Arctic Circle. This little indigenous municipality has 3,000 inhabitants and about 250 students, both Sámi and international.

In the classroom, with Sámi-language signs on the wall and a panorama view to the center of Guovdageiadnu, to the bush and the tundra, you hear many kinds of accents and dialects, because the students are from Finland, Sweden, Russia and Norway. Roman Yakovlev is from Lujávri, the Russian part of Sápmi. Why does he want to learn Sámi at the age of 31?

"My grandparents spoke *gielddasámegiella* or Kildin Sámi, a language that is still spoken in Russia. I never had the chance to learn our language; when my grandparents passed away, the language was also silenced in our family. In our region there are only 150-200 people who speak Kildin Sámi, most of them elders, so I have only heard the language sporadically. I am a musician and would like to use our language when I sing. I would also like to write poetry and lyrics – and in the future, the main goal is that I can speak Sámi, both Kildin and North Sámi."

The other student in the classroom is Dine Arnannguaq Fenger Lynge, a 32-year-old woman from Greenland, or Kalaallit Nunaat. She has stayed in Sápmi for almost 20 years. She is trying to learn Sámi with her Greenlandic accent, and pronounces Sámi words perfectly. From the wall, I can see that these students are learning grammar, the case inflection of the word *nieida*, 'girl': *nieida*, *nieiddat*, *nieiddain*, *nieidan*.

Dine Arnannguaq first started learning Sámi, because knowing a language opens up better job opportunities. "It's necessary to learn the language of where you are. I worked at the hotel here in Guovdageaidnu, and in my experience it's not so easy to get proper jobs if you don't speak the native language," says Dine. According to her, the Sámi grammar is very difficult and so is the alphabet. "I'm trying to figure out how to use my tongue and mouth when I pronounce the letters á, č, đ, š, t, ž and z, but I'm also learning new words daily," Dine says. She speaks many languages: her mother tongue is Greenlandic or Inuit, and she also speaks Danish, Norwegian and English – and now she is working hard so that Sámi would become her fifth language.

Sámi Allaskuvla has a language policy that the staff shall speak Sámi, and if not, the institution gives them the opportunity to learn. One of the staff members is Jon Todal, a Norwegian professor. When he came to Allaskuvla nearly 30 years ago, he did not speak Sámi. Now it is his working language. "It is necessary to speak the same language as the students. I have Sámi students from four countries, and I want to communicate directly with them. Language is the identity of this university; we use it at all levels, and it would be a very bad language policy if I spoke English with my students from Finland or Russia," Todal says.

Since the establishment of Sámi Allaskuvla in 1989, the main policy has been to get more educated teachers and strengthen the language. In the beginning, they only offered language courses to those who already spoke Sámi, but now they have courses and lectures for beginners as well. "This means that we have students at different levels. The beginners are learning the language while they do practical things, such as cooking food, picking berries, cutting hay, or just walking in the nature – trying to strengthen the language with practical work," says the Sámi Allaskuvla rector Gunvor Guttorm. She is sitting in the heart of the building, by the fireplace in the cantina.

"We have worked hard, and now we can see the good results. Can you imagine, no one would believe that our institution currently has more than 20 students who are taking their PhD, and many of them are doing research about Sámi language – I am proud of it!" She talks about the importance of getting young people interested in language and getting them to see that speaking Sámi will provide them with opportunities. "That

is our goal, and in that we are a role model for many institutions. We are creating knowledge," Guttorm says.

In the library of Diehtosiida, a young woman is sitting with her books. She is Katja Ravdna Broch Pedersen from Deatnu, a Sámi municipality in the eastern part of Finnmark, Norway. She is an actor, and she loves to read and write. She has studied theater in Tromsø, but now she wants to strengthen her mother tongue. "I want to learn, to understand the grammar and the structure of the language." In Romsa (Tromsø), she felt that the Sámi were outsiders. She was not able to use her own language for three years, and now she needs to refresh it. Katja Ravda decided to move to Guovdageianu, because here the majority speak Sámi.

Before I leave Diehtosiida, I bump into Dine Arnannguaq, and spontaneous as she is, she is yelling to me: "The Sámi *giella* is a cool language!" As she walks out of Diehtosiida, she is again yelling "*Bàze dearvan* – goodbye," her steps echoing in the lobby with Sámi designs and high tech side by side.

Yes, as a foreigner in Sápmi you understand that they truly embrace their Sámi *giella* as the language of the heart – *váibmogiella*.



LEX TREINEN

"How do your people dance?" they asked me. I was in a provincial village outside of the city of Udmurtia in Central Russia, in the middle of a village dance attended by pretty much the whole town, about 60 people. It was 2012, my senior year of college, and I was there as part of the north2north program which facilitates exchanges between a few dozen northern universities, among them my home institution of the University of Alaska Fairbanks (UAF) and host institution, Syktyvkar State University.

The question struck for two reasons: first, that it was so simple; and second, that I didn't have an answer. Of course I could have taught them the hyper-sexualized grind that is most common for "my people", but it didn't quite seem appropriate in a room filled with ethnic Udmurts ages 5 to 85; nor did it fit the music, played with the balalaika and various tamborine-like percussion instruments.

But who were "my people" as they had asked? It was an easy question for my hosts to answer: they were Udmurts, a people with a distinct language, cuisine, music and clothing. They were known throughout Russia for their clothing, decorated with old monies that rattled on their chests as they danced. But who was I? I am American, of course, but that isn't very specific. I am ethnically German and Norwegian, but I certainly didn't have any dance moves from my great-great grandparents who immigrated from the Old Country.

Athletics was perhaps the reason that I was in the community hall for their village celebration. As a National Collegiate Athletic Association (NCAA) All-American skier, I had specifically chosen a university in Russia known for its ski conditions, and continued to train full time throughout my studies abroad. Despite my reservations about taking a semester off of NCAA competition, I had the idealistic notion that sport, above all, is a network to connect people who shared only their desire to work hard towards a certain goal. And indeed, through skiing I had met my good friend Kolya, who had invited me to his Udmurt village for this celebration.

The celebration also fit into my undergraduate degree: Russian Studies. Though the Udmurt people all still speak their native language, they all learn fluent Russian in school, if not before. As a student of the Russian language, it was my only way to communicate with my hosts and every day was an intense, immersive lesson in the complicated tongue.

More important than how I got there was where it led me. I came back to UAF, determined to find out who my people were, whatever that means. I got involved with a university club called K'enaanee Kkaazoot, which sent skiers to native Athabaskan villages in rural Alaska. I was soon fortunate enough to travel to three Gwich'in villages and get to know the native people of my home state, who I hardly even considered before then. Since I started with K'enaanee Kkaazoot, I also

became involved with a similar statewide organization called NANANordic, which also serves Inupiaq and Yupik Eskimo villages with ski coaches. I have volunteered two weeks of my time for the past three years with this program, and have traveled and worked in nine off-the-road system villages, as well as doing local Anchorage outreach to underserved school children.

More than just volunteering, I hope that I can do my small part in helping preserve the traditions of the indigenous people of my home state, so that they don't forget how to dance.

By GUNVOR M. KIRKELUND, Head of Studies, Associate Professor, Technical University of Denmark (DTU) and SABINA ASKHOLM LARSEN, Communications Officer, Technical University of Denmark (DTU)

here is a growing demand for graduates who know how to work in the Arctic, not just in theory but also in practice. That is the basic philosophy for establishing two new Master's level educational activities at the Technical University of Denmark (DTU) concerning Arctic and cold climate engineering.

Since 2001, DTU has offered a Bachelor of Engineering in Arctic Technology. To give graduate students an opportunity to specialize in the Arctic as well, DTU has developed two new educational initiatives on Master's level: the Arctic Semester and the Nordic Master in Cold Climate Engineering. Common to both programs is the focus on teaching how to operate as an engineer in the Arctic by actually being in the Arctic.

DTU offered the Arctic Semester for the first time in spring 2016. It takes place in the Greenlandic town of Sisimiut and is an opportunity for Master of Science students to Master's program in the field was offered get an insight to and experience the extreme

Growing Demand for

ENGINEERS WITH ARCTIC EXPERIENCE



conditions that apply when working as an engineer in the Arctic. The Nordic Master in Cold Climate Engineering was launched half a year later, in autumn 2016. The program consists of three different tracks: Land, Sea and Space. Each track has its own profile and appeals to students with different academic backgrounds, and they all focus on different aspects of working as an engineer in a cold climate. The Arctic Semester in Sisimiut is mandatory for the students in the Land track. while other students in the program have the opportunity to go to Svalbard and attend courses or write their Master's thesis at the University Centre in Svalbard (UNIS).

Despite the obvious need and demand for special competences in cold climate engineering, DTU found that no full in any of the Nordic or European countries.

This paved the way for the development of the Nordic Master in Cold Climate Engineering within the Nordic Five Tech alliance in collaboration with the Norwegian University of Science and Technology (NTNU) and Aalto University in Finland. We were able to develop a comprehensive program with the three academic tracks by combining facilities and courses already at our disposal. This resulted in a joint degree program during which the students study at two of the three collaborating universities. The Nordic Master in Cold Climate Engineering will have its first graduates in summer 2018. The program has also resulted in increased research collaboration between the universities involved. A concrete example is three PhD collaborations about Arctic engineering issues.

The Arctic Semester and Nordic Master in Cold Climate Engineering are open for applications from all students, not just those with a Bachelor's degree from DTU, NTNU or Aalto University. DTU received funding from UArctic-coordinated Danish project grants to develop the Arctic Semester. The Nordic Council of Ministers funded the development of the Nordic Master in Cold Climate Engineering.

IVAN VAKULENKO

To my mind the Nordic Master in Cold Climate Engineering attracts only people who are romantic enough to love such a severe region as the Arctic. However, the Arctic is also a unique place, and one of the most fascinating regions in the world.

The Cold Climate Engineering program allows us to study at two universities, and we will graduate with two diplomas, in my case from the Technical University of Denmark (DTU) and Norwegian University of Science and Technology (NTNU). I follow the Land track which focuses on geotechnology

During the first semester we studied at DTU in Denmark and covered mostly theoretical courses concerning civil engineering subjects, such as seismic and wind engineering, geology and soil mechanics. The second semester we spent in Greenland, in the second largest town called Sisimiut, where DTU's Arctic technology centre (ARTEK) is located. It was one of the most exciting periods of our education. A combination of lectures, laboratory work and field trips, I think, is the best way of learning.

Our first course was about the history of the Arctic society and specific issues connected with its development, which is extremely important for the implementation of geotechnical projects in the region. We continued with physical and environmental engineering and finally finished with a six-week course of infrastructure construction. Field excursions were organized regularly. Some of them were arranged in cooperation with Greenland School of Minerals & Petroleum in Sisimiut, which allowed us – after required safety courses – to take part in rock drilling and blasting preparation works. Moreover, we had a week-long field trip to the Kangerlussuag international airport, where we made geodetical measurements of runway settlement. When we returned to the European mainland in the summer, we had gained wide practical experience, and most of us would like to visit this charming island again.

The second year gave us more options on how to organize our education, since we could choose where to study further: the University Centre in

Svalbard (UNIS) or NTNU in Trondheim. I decided to go to Trondheim for the two semesters, because I was mostly interested in writing my thesis about tunnelling projects.

> Since we are the first students in this program, we got the chance to test its strengths and weaknesses. We have given our feedback after each semester, and I know that the coordinators have already considered our proposals for the next students. I am sure that the Cold Climate Engineering program will evolve and attract more and more talented students from all over the world, who are interested in the Arctic development with respect to local societies and securing the fragile environmental system of this region.

TEACH ME ABOUT MY COUNTRY TEACH ME ABOUT THE ARCTIC

By **ULUNNGUAQ MARKUSSEN**, UArctic Student Ambassador, Master's Student, Nord University

It is becoming more and more exciting to be a citizen of the Arctic. It is clear that the world's attention is moving north, and thus many Arctic conferences are being held each year. Economic, social and cultural activities are blooming.

Both the current understanding and perceptions of the Arctic are very different from when I was a child in one of the northernmost cities in Greenland, Uummannag. At that time, the Arctic was only seen as a cold and isolated region that was difficult to live in. But today, I enjoy watching the Arctic evolving into an innovative and creative network of societies. We emphasize cooperation between Arctic nations while at the same time seeking our own terms and values. This critical and innovative period is very important, because just a few years ago, we were only focusing on how to westernize the Arctic enough to enjoy the global market. The roles are shifting now due to climate change. Today, western countries are seeking a place in the North in order to be part of the development and creation of our new Arctic identity.

I have decided to take part in the growth of the Arctic. However, this means that I have had to go abroad in order to access Arctic scholars and research opportunities about my country and the Arctic region. UArctic has opened up many doors for me, and I greatly appreciate it. Currently I am studying at Nord University in Bodø, Norway. I have also taken courses in different universities through exchanges, summer schools and e-learning, and attended several conferences in the Arctic.

At the moment, my country is not focusing on the Arctic issues and its own position in this exciting region. If you look at the world map, you will see a giant white island called Greenland which, in fact, symbolizes the Arctic more than other Arctic countries. We have icebergs, polar bears, arctic foxes, northern lights, the giant ice cap and so on – everything that symbolizes the Arctic can be found in my country. Despite the fact that we are Arctic people in an Arctic region, we have little awareness of our exotic position in the world. Many years of colonization and Danish rule over Greenland have blinded our perceptions of our global significance.

I was not taught about my country, its history and culture, because the curricula from the primary school to high school and university are largely based on Danish and European culture and values, as well as Danish welfare state and politics. I believe this is one of the reasons why many Greenlanders are not interested in pursuing higher education. It can be hard to keep up at school when you cannot visualize the teaching, and it has nothing to do with your surroundings and culture.

I personally am not interested in Danish hegemony. Although I respect the culture and values, it does not mean that I have to adjust to their way of living, or focus solely on European values and culture. I am interested in knowing more about my country and the opportunities and the challenges within the Arctic region. Many young Greenlandic people must move to Denmark to study, as educational programs are not available in Greenland. I feel lucky that I have taken my university degree in Greenland. I have also traveled a lot through my university's network and collaboration with other Arctic universities and beyond. I personally believe it is very important to go abroad to see other cultures and to expand your awareness. It makes you creative and compassionate, and through travelling you learn a lot about yourself and your own values. I always meet interesting people with similar interests as mine, which is, of course, the Arctic. Everything is about creating new paths to find your own interest.

I hope opportunities for Greenlandic students will increase and that young Greenlanders will become more willing to go abroad for their studies. We need more Greenlanders who can become role models. I myself never had one. My search for what I really want has brought me here. When I began I was monolingual; I could not speak or understand a language other than my own. By throwing myself out into the world I have learned both Danish and English. And I'm still learning! Our language should not limit us - we should make lots of mistakes and dare to try. The process is very challenging, but you must really hold onto your dreams. What I have found out is that the world opens up to the one that opens up to the world.

Current studies: Master's in West Nordic Studies (Nord University)

Exchanges: University of Iceland, Dartmouth College, Nord University

Summer schools or short courses: Reykjavik x2 (third in summer 2018), Akureyri, Rovaniemi in October 2018

Arctic conferences: Reykjavík x2, Nuuk x2, Saint Petersburg, Tromsø, Bodø, Québec

E-learning: Canada, Akureyri

Internship: Parliament of Denmark in Copenhagen

Language courses: England x2, Switzerland



UArctic Annual Report for 2017

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 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.



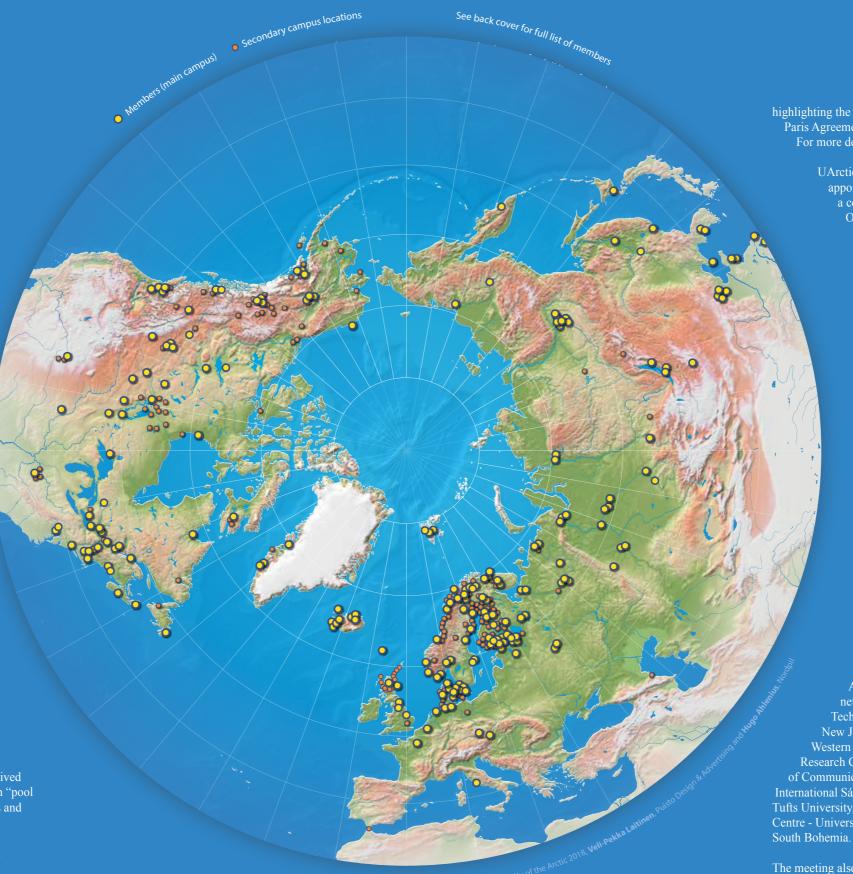
UArctic: Moving the Education Agenda forward for the North

hrough our vision of "An
Empowered North – With Shared
Voices" we recognize that education
is how UArctic can empower the
circumpolar region by providing
unique opportunities through our
powerful network of members.

In the past year, UArctic has worked in close cooperation with the Finnish chairmanship of the Arctic Council to drive this idea forward – that education at all levels is critical to a sustainable Arctic region. A strong community of primary and secondary teachers who understand and are committed to the northern communities where they teach is essential, and the networks of UArctic members that deliver teacher education programs play a leading role in building that community of educators. UArctic has been pleased to partner with the Arctic Council to carry out this important priority of the Finnish chairmanship program.

Much of the work under the Education priority has been coordinated by the UArctic Thematic Network on Teacher Education for Social Justice and Diversity in Education. This network has been extremely active, including leading the Sustainable Development Working Group project "Teacher Education for Diversity and Equality in the Arctic", which focusses on knowledge exchange around inclusive and effective teaching practices. The network also received recognition as the first Finnish-led UNESCO UNITWIN network, which "pool their resources, both human and material, to address pressing challenges and contribute to the development of their societies."

The planning of the UArctic Congress 2018, September 3-7 in Oulu and Helsinki, Finland, has also been closely coordinated with the Education priority, as well as the other priorities of the Finnish chairmanship. The themes of the Congress scientific program align with the priorities of environmental protection, connectivity, meteorological cooperation, and education, as well as



highlighting the UN Sustainable Development goals, gender equality, and the Paris Agreement under the UN Framework Convention on Climate Change. For more details on the Congress, see page (6).

UArctic also strengthened its research engagement through the appointment of Professor Jeffrey Welker as the first UArctic Chair, a collaborative appointment between UArctic, the University of Oulu and the University of Alaska Anchorage. The inaugural position is hosted by the University of Oulu. UArctic Chairs are highly qualified academics who will serve as academic drivers in a broad problem area of relevance to the Arctic. They implement and drive collaborative actions among UArctic members and Thematic Networks; develop research cooperation, including undergraduate, graduate, PhD and postdoctoral scientist training; and build partnerships with the broader Arctic community.

Also in 2017, the University of Aberdeen hosted the UArctic Rectors' Forum on the theme "The Inhabited Arctic: Lands, Peoples and Scholarship in the Circumpolar North". The assembled heads of UArctic institutions engaged in broad discussions on the issues facing northern higher education and research. The conclusions of these discussions were reflected in the Rectors' Forum Declaration. The meeting was organized in conjunction with the international conference "Conversations from the North".

The University of Greenland organized a very successful Council meeting in Nuuk, also in August 2017, which featured a pre-conference excursion to Sisimiut, organized by the Arctic Technology Centre (ARTEK) of the Technical University of Denmark. Over eighty Council members and other participants, including Senior Arctic Officials of the Arctic Council, attended the meetings and enjoyed a diverse cultural program and excursions among the spectacular scenery of Greenland.

A record number of fourteen new members joined the UArctic network at the Council meeting. These include Baltic State
Technical University, Kajaani University of Applied Sciences,
New Jersey City University, Technical University of Denmark,
Western Kentucky University, Aleut International Association, Arctic
Research Center of the Yamal-Nenets Autonomous District, Faculty
of Communication, Art and Technology - Simon Fraser University,
International Sámi Film Institute, Fletcher School of Law and Diplomacy Tufts University, Beijing Normal University, Alfred Wegener Institut, Arctic
Centre - University of Groningen, and Centre for Polar Ecology - University of
South Bohemia

The meeting also welcomed seven new Thematic Networks to UArctic: Arctic Lingua, Arctic Migration, Arctic Research Administration, Arctic WASH, Arthropods of the Tundra / NeAT, Global Ecological and Economic Connections in Arctic and Sub-Arctic Crab Fisheries, and Science Diplomacy.

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JArctic Thematic Networks Arctic-Boreal Hub	Arctic Coastal Communities for Sustainability	Arctic Economic Science	Arctic Engineering	Arctic Extractive Industries	Arctic Fisheries and Aquaculture	Arctic Geology	Arctic Law	Arctic Lingua	Arctic Migration	Arctic Safety and Security	Arctic Sustainable Arts and Design (ASAD)	Arctic Sustainable Resources and Social Responsibility Arctic Telecommunications and Networking	ArcticWASH	Commercialization of Science and Technology for the North	Communicating Arctic Research	Arthropods of the Tundra / NeAT	Distance Education and e-Learning	Energy in New Time	onmental Impact Assessment of Industry Contaminated Areas	l Economic Connections in Arctic and Sub-Arctic Crab Fisheries	Geopolitics and Security	Health and Well-being in the Arctic	nentation and Language Technologies for Circumpolar Region	Local and Regional Development in the North	Managing Small and Medium Sized Enterprises in the North	Natural Hazards	Northern Food Security	Northem Governance	Northern Nursing Education	Northern Tourism	Permafrost	Science Diplomacy	Social From his Production and Foraging of Natural Products in the North	eacher Education for Social Justice and Diversity in Education	UArctic World Ensemble	Verdde Program	Working in the Arctic	World Images of Indigenous Peoples of the North	EALÁTINSTITUTE	NORTHERN RESEARCH FORUM	UARCTIC INSTITUTE OF ARCTIC POLICY

At a Glance Statistics 2017

north2north Student Mobility 2017

	OUT	IN
Canada	9	40
Denmark	10	4
Faroe Islands	5	0
Finland	29	12
Greenland	0	6
Iceland	1	5
Norway	21	31
Russia	33	4
Sweden	11	10
USA	4	11
TOTAL	123	123

Membership

205 Total

144 Higher education institutions

61 Other organizations

1.9m Students

356k Staff

www.uarctic.org



Courses and programs in Study Catalogue

623

ourses

349

UArctic news article

129

144 780

Entries in Research Infrastructure Catalogue

634 728

Member profi

990 Outbound link vi

17

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5 409

Twitter follower

Distribution of UArctic Members 2017

37 Canada

16 Finland

8 Iceland

13 Kingdom of Denmark

16 Norway

54 Russia

8 Sweden

23 USA

30 Non-Arctic

Promote your northern expertise through UArctic!

members.uarctic.org/update



Promote

NORTHERN EDUCATION

Through UArctic

Opportunities for Marketing and Promotion

UArctic offers exclusive opportunities to member institutions to market their studies, which are also of great value to students seeking education opportunities on northern issues. The UArctic Study Catalogue is a one-stop shop that offers current and prospective students a chance to search their topic of choice and quickly visualize the many ways that subject can be studied across the Arctic. Students can then visit the institution's own web pages to find out more information. This is an ideal marketing opportunity for members to promote their northern courses and programs to those interested in learning more about the region and pursuing studies relevant to the North.

Each UArctic member institution is committed to our mission and values, and collectively represent the world's leading expertise on northern science and knowledge. No matter what you are interested in studying about the North, you are sure to find the right program or university for you.

www.uarctic.org/studies



UArctic Academic Endorsement

Our members can seek UArctic Academic Endorsement for studies that strongly embody our mission and values. This status can offer additional visibility and esteem to member institutions by endorsing key courses and programs.

The application process is open three times a year. To be eligible, courses and programs should demonstrate strong northern relevance in content and learning outcomes, as well as substantial support of UArctic values and practice: respect for multiple systems of knowledge, promoting multidisciplinary understanding, and balance across different regions of the North. Furthermore, the applying institutions have to display a strong international networking component such as delivery location, joint teaching or curriculum development, or inclusion of student and faculty mobility.

Approved courses and programs obtain an additional prestigious mark of quality for their respective institutions, and are promoted to the UArctic network via various highlights on the UArctic website, in the Study Catalogue, and mentions in the news and on social media. Additionally, those institutions are granted the right to issue UArctic certificates to students who complete their endorsed program or course.

In essence, this is another chance for all members to raise their profile at home, as well as on the international Arctic platform.

For more information on UArctic's Academic Endorsement Program, contact academic@uarctic.org.

www.uarctic.org/endorsement



WHY DOES NORTHERN MOBILITY MATTER?

"Sharing knowledge, resources, and experiences is important anywhere. It is critical in the North. For this reason, investing in programs such as north2north should be considered a critical investment for all parties involved."

Matthew Balazs

"A semester or summer of an educational experience can be a life-changing experience for a student. Your time and effort making that possible is appreciated and may sometimes give you large returns in years ahead."

Anna Liljedahl

"Supporting exchanges like north2north are essential in keeping dialogue going between the countries of the North."

Lex Treinen

"Continue to support UArctic placement experiences. The profound impact they make on the future leaders of the Arctic, and the connections between these future leaders, is absolutely worth the investment."

Anne Rittgers



Introducing Yukon University

By KAREN BARNES, President, Vice-Chancellor, Yukon College

anada will soon have its first circumpolar university. Yukon College, first established as a vocational school in 1963, will become Yukon University in 2020.

The demand for university-level and career programs delivered in the North is evident, particularly for those programs that respond to the economic and social open our doors wider – to share our unique knowledge and perspective of the North with the rest of Canada and the world, and o become a destination for students and researchers who want to experience living and learning in the North.

Much as the needs of Yukon and its citizens have shaped Yukon College programming for 55 years, the current and future needs of Yukoners will shape YukonU. While 50% of our students aspire to a Bachelor's degree or higher, a strong desire remains for practical, vocational trades training and for programming that supports adults rebooting their educational journey. Thus, we will be a hybrid university, offering flexible and comprehensive programming that will include degrees, diplomas, certificates, trades and adult basic education.

needs of northern communities. It is time to Yukon University will build on our strengths and focus on education and research relevant to the Circumpolar North with three niche program areas: sustainable resource development and innovation; climate change society and environment; and indigenous self-determination and governance.

For over five decades we have successfully delivered a wide range of apprenticeship, trades and technology training across the territory. Through the combination of education, training, research and innovation we have supported the sustainable development and stewardship of Yukon resources: the land, wildlife, water and minerals. By collaborating with Yukon First Nations, government and industry, we continue to expand our training opportunities, connecting closely to research and emphasizing sustainable practices.

For over 16 years, we have been recognized as a leader in climate change research in both natural and social sciences. Our work spans community health and wellbeing, impacts on traditional culture and practices, infrastructure and economy, policy implications, community and individual resiliency, and food security. Yukon University builds on this strong foundation in climate change research to ensure that its programs provide a holistic, interdisciplinary approach to the topic.

Over many years, we have worked closely with First Nation governments to build curriculum and reciprocity between indigenous and non-indigenous traditions.

Yukon is a living lab, showcasing the challenges and successes of indigenous selfgovernment. Our strong partnership with all 14 Yukon First Nations is unparalleled. The knowledge gained by decades of First Nations' self-governance in the territory drives programming that supports capacity development and self-determination. We currently offer five programs in indigenous self-determination studies, and our first made-in-Yukon degree, launched this year, is a Bachelor of Arts in Indigenous Governance.

Our evolution from college to university has been supported and shaped by connections to our UArctic partners in Canada and especially in Norway, Sweden, Finland and Iceland where we have visited colleagues in the course of this journey. We are grateful for the sharing of knowledge and the opportunities to consider variou ways of engaging all of our small Arctic communities in education, research and innovation. Many of us in UArctic are incorporating different ways of learning and traditional indigenous knowledge into our programs alongside new distance technologies and in-person support. Our collective commitment to expanding opportunities for education and research across the Circumpolar North will ensure a sustainable future for the Arctic region and its peoples.

As we begin the next chapter in our journey, all of us at Yukon University look forward to new and renewed collaborations within the UArctic family and the thrilling spark of discovery that occurs with the exchange of knowledge, ideas and people.

STUDENT INTERVIEW: FREDRIK JUUSO

By **JENNELLE DOYLE**, Former Intern, UArctic International Secretariat

The Governance and Entrepreneurship in Northern and Indigenous Communities (GENI) program is a joint three-year Master's program offered by the University of Saskatchewan (Canada) and UiT The Arctic University of Norway. It also falls under the UArctic Thematic Network on Northern Governance.

The program is designed to help students take a leadership role in supporting northern and indigenous communities through the topics of governance and economic development.

"I think the most valuable aspect of GENI is the possibility to compare relationships between different regions of the Arctic and link this to problems and theories of social science," Juuso says. "The program has provided me with a comprehensive picture of governance issues in remote Arctic areas. It has especially broadened my understanding from a comparative perspective between indigenous peoples and local communities, and not only from a social scientific but also from a legal perspective."

Fredrik Juuso has a background in Business Administration from Mid-Sweden University, and he is currently in the third year of the GENI program, based at the UiT campus in Norway. In addition to how it suited his past studies, Juuso says that the field school aspect of the program was something that really stood out when he was considering postgraduate options.

"I've now been to field schools in Saskatchewan and Northern Norway. These field schools have contributed to a good connection between the participants in the program, and I think the discussions in the courses are another benefit of the field school experience."

> Juuso says that the field schools have given him a better perspective of the scope of the Arctic and outlined the importance of visiting the place that you are learning about to better understand it.

> > "No matter what you study in the social sciences, it is important to visit the reality when you seek knowledge. It is only at on-site visits that a fairly complete picture emerges, which often turns to be more complex than suggested by the literature."



CONNECTING PEOPLE AND **CULTURES**

Through a Northern Nursing Education Network

This necessitated partnerships with nursing beading and handiwork when they noticed has created a supporting network in nursing By LORNA BUTLER, Lead of the programs that understood a northern context. my beaded purse. I was delighted to discover education across the Circumpolar North. that my Inuvialuit ancestors utilized the same UArctic Thematic Network on The inaugural meeting of the Northern Northern Nursing Education, Senior Nursing Education Network (NNEN) was sod-style houses as those traditionally used by the Sámi. I was empowered learning about Strategist, Distributed and Technology held in Reykjavík, Iceland in April 2015 with Enhanced Learning and Discovery, representatives of northern nursing programs the process towards self-determination that University of Saskatchewan and from Russia, Finland, Norway and Canada. the Sámi have accomplished and continue **HEATHER EXNER-PIROT.** Lead The network has since grown to include to accomplish. It gives me hope that with of the UArctic Thematic Network twelve UArctic institutions from seven strength and determination my own on Northern Nursing Education, Arctic states, adding Greenland, Sweden and people are headed in the right direction Strategist for Outreach and Iceland to the participating countries. towards truth and reconciliation.' Indigenous Engagement, University of Saskatchewan and BENTE NORBYE, A key activity is the annual International Professor in Health Care Education. Innovative Learning Institute UiT The Arctic University of Norway on Circumpolar Health, a two-week field school designed to advance northern nursing students' understanding of the determinants of health across the Circumpolar North.

n almost every community of the Circumpolar North, nurses often deliver health care in small clinics far away from tertiary hospitals and specialists. For decades most nurses working in northern communities have been recruited from the South, filling gaps in the local nursing workforce. A growing number of UArctic colleges and universities are working hard to educate northern nurses in the North to build a more stable, culturally competent and representative health care system.

The UArctic Thematic Network on Northern Nursing Education evolved as a result of the desire to learn best practices for delivering nursing education to remote northern regions.

Three have been held so far in Yakutsk. Russia (2015), Saskatchewan, Canada (2016) and Tromsø, Norway (2017), with the next one to be organized in Greenland in 2019.

Is there value to looking at nursing education and health care from a circumpolar perspective? As one nursing student from the Northwest Territories who attended the 2017 field school in Norway said, "I discovered more about my culture, and about the similarities of cultures across the Circumpolar North despite the vast distances I was amazed to hear that my colleague from Greenland and I shared cultural similarities such as hunting styles, clothing, language and traditional diet. My colleagues from Russia and I discussed similarities in traditional

To promote better knowledge of northernspecific health care challenges and characteristics for the next generation of northern health professionals, the NNEN is in the process of creating an open education online resource dedicated to northern and indigenous health and health care. This resource has engaged almost fifty authors and experts from all Arctic nations and will be launched at the International Congress on Circumpolar Health in Copenhagen, Denmark in August 2018.

The NNEN has made it possible for nursing faculty and students across the Arctic to jointly explore northern and indigenous health issues, histories and contemporary challenges. Connecting people and cultures



he Model Arctic Council is an academic program that brings graduate and undergraduate university students together to learn about the Arctic by simulating the work of the Arctic Council. Students

from various disciplines role play Arctic Council delegates, wrestling with the real-life challenges and opportunities faced by Arctic peoples and countries – issues that must be tackled multilaterally. Organized as a UArctic Thematic Network, the pan-Arctic program takes place every second year at a UArctic member university in the country chairing the Arctic Council, with regional programs held in interim years.

The first fully international Model Arctic Council took place during the US chairmanship at the University of Alaska Fairbanks (UAF) in March 2016, prior to an Arctic Council Senior Arctic Officials meeting in Fairbanks and during the Arctic Science Summit Week (ASSW). This opportune timing permitted interaction between Arctic Council delegates and Model Arctic Council participants, and allowed the students to participate in ASSW's International Day of the Arctic, a series of forums with Arctic political leaders and scholars.

Sixty-five students representing 32 universities and 14 countries took part in the Model Arctic Council 2016. Students praised the program, saying they felt they had learned more than they would have in a conventional classroom setting. They found the intercultural exchange and the work on

actual Arctic Council priorities especially meaningful. As one student later noted in an email, "The positive effects from all the activities that week will continue to ripple and be felt in the unique stories we all choose to tell with our lives. I feel so lucky to have been a part of it."

In June 2017 Dartmouth College, in collaboration with UAF faculty, sponsored a regional Model Arctic Council within the US-Canada Arctic Science Diplomacy and Leadership Workshop & Model Arctic Council. Twenty-five students participated, mostly from US and Canadian universities. They simulated the work of the Arctic Council's Sustainable Development Working Group (SDWG) on operationalizing One Health in the Arctic, and developed communication action plans on five urgent climate change-related Arctic health concerns. The Dartmouth program's strengths included its extensive engagement with Arctic Council delegates, which lent authenticity to the program, and its emphasis on leadership development. Students also emphasized the interdisciplinary nature of the program. Some said they found the immersion in Arctic affairs and intense collaboration transformative.

The next fully international Model Arctic Council will take place October 29 – November 2, 2018 at the University of Lapland in Rovaniemi, Finland. A Senior Arctic Officials meeting during the same week will once again permit interaction between the participating students and Arctic Council delegates.



(Higher)

Education for Sustainable Development

A Global Perspective with an Arctic Touch

By HILLIGJE VAN'T LAND, Secretary General, International Association of Universities and STEFANIE MALLOW, Programme Officer for Higher Education and Research for Sustainable Development, International Association of Universities

ver the past 20 years, sustainable development (SD) has slowly become mainstream, not at least of education. In 2014, at the end of the Decade of

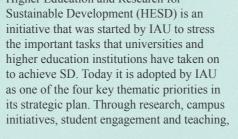
Education for Sustainable Development, UNESCO launched the Global Action Programme on Education for Sustainable Development (GAP ESD) and built a platform bringing together key players from all parts of the world in order to scale up action in what has now become recognized as a transversal theme.

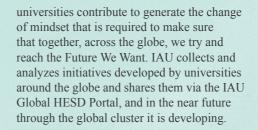
Today, Education for Sustainable Development (ESD) is included in the global agenda in Sustainable Development Goal 4 (SDG-4), target 4.7. This goal and target calls for "all learners to acquire knowledge

and skills needed to promote sustainable development [by 2030]." It is not a standalone target but rather a horizontal one. key to achieving all the SDGs. GAP ESD is thanks to the contributions devoted to help address all goals by 2030.

> The International Association of Universities (IAU) and a few other university networks represent higher education in GAP ESD. Yet, the role of higher education is often reduced to teacher training initiatives by governments and politicians who overlook its potential and work to address all SDGs through teaching, learning, research and campus initiatives, to name but a few actions.

Higher Education and Research for Sustainable Development (HESD) is an initiative that was started by IAU to stress the important tasks that universities and higher education institutions have taken on to achieve SD. Today it is adopted by IAU as one of the four key thematic priorities in





While ESD and HESD are not exactly the same, they do complement each other. One example is provided by the University of Saskatchewan in Canada which hosts the Sustainability Education Research Institute (SERI). The institute facilitates research on ESD, creates partnerships for ESD, develops new approaches to energy, works with indigenous people to identify and foster traditional and new approaches to issues we face, and enhances the overall approach of the university towards sustainability.

Universities in the Arctic contribute to illustrating the diversity of approaches to ESD and HESD. A doctoral student from the University of Lapland and the University of Iceland conducted research about the potential of art in education for sustainability. Titled "Artistic Actions for Sustainability", the research includes a too often forgotten dimension of actions undertaken to achieve SD - art.

Many universities in the far North are well connected and contribute to (Higher) Education for Sustainable Development on a global scale. For example, the Universities of Bergen and Oslo and the Norwegian University of Life Sciences are part of a project called SUSTAIN in which they partner with four universities in Southern Africa in order to encourage joint research and enhance sustainable science and technology education.

(Higher) Education for Sustainable Development is a very diverse area of work and can lead the way to achieving the Agenda 2030. Together, we can reach a sustainable future.







Climate Change Education as a Passion

By **AINO KINNI** and **ANNA MUOTKA**Master's Students, University of Lapland

limate change is the greatest threat of our time. It affects society, nature, technology, economy and culture in many ways. Our society as a whole needs to change, and sustainability needs to become integrated into every aspect of society. This has also increased the need for climate change education around the world.

Climate change education emphasizes the perspectives of climate and climate responsibility and the necessity of change in the field of education. One of the aims is to increase knowledge about climate change as a phenomenon. Another aim is to guide people's actions and behavior towards climate change mitigation and adaptation. The education of emotions is significant as well. Climate change education is a part of environmental education and education for sustainable development. It also offers a point of view for global education.

In Finland, climate change education has been a part of the secondary school curriculum for several years, and it

has been implemented by individual teachers and different projects (e.g. Youth Academy's Ilmari project). A climate change education guide for subject-specific teachers, a Teacher's Climate Guide, was also published recently. Increasing climateresponsible actions requires a change in people's worldview and a stronger sense of communal responsibility. Therefore building a sustainable way of life should begin early, before entering secondary school.

So how did we, two Finnish primary school teacher students, end up being involved in climate change education?

Our interest is an outcome of a strong childhood relationship with nature, the desire to create a change in the society, and a drive for education. Climate change has been close to our hearts for many years now, and because we study primary school education, climate change education in primary schools was a natural focus for us.

During our studies we realized that climate change education does not really exist in primary schools, at least not in Finland. We became interested in researching the issue and what such education should include. As luck would have it, the University of Lapland's climate change education project was just about to start. We got to contribute to it with our Master's thesis in which we focus on the perceptions on climate change education on the primary school level. The project will generate information and materials for primary schools to bring awareness to and diversify the methods used in climate change education. The results of the study will also be used in the Primary School Teacher's Climate Guide that will be published in 2019.

Climate change is mentioned in the Finnish National Core Curriculum for Basic Education. That means all primary and secondary school teachers should address the issue in their teaching. Of course, we hope that teachers would find climate change important to discuss in school, but we also understand that it is not the easiest topic to deal with. Hopefully this project and all the climate change education material produced will help with this challenge.

UArctic Facilitating UK-Russia **Collaboration in Arctic Research**

By MARINA KALININA, Vice-President Interregional Cooperation, UArctic, Rector's Advisor on International Cooperation, Northern (Arctic) Federal University

Year of Science and Education. the UArctic Research Office at the Northern (Arctic) Federal University implemented the project "Development of the UK-Russia Arctic Research and Collaboration Network". Funded by the United Kingdom's institutions and from different regions and Foreign and Commonwealth Office, the project aimed to provide opportunities for advanced discussions on Arctic research agenda and further collaboration prospects between Russian and British scientists, including activities within UArctic.

Within the framework of this project, research seminars were run both in the UK and Russia. hosted by the University of Aberdeen, the Scott Polar Research Institute and the Northern (Arctic) Federal University. The seminars became a meeting place for one hundred Arctic scientists from 45 Russian and British institutions to share knowledge on coastal and marine biology, Arctic ecosystems, environmental and social impact assessment, climate change, mitigation and adaptation strategies, rural

n 2017-2018, within the UK-Russia health and wellbeing in the North, new health scholars from Russian UArctic member care technologies, coastal archaeology, and indigenous peoples' livelihoods and cultures. communication and academic writing.

> The project was unique in terms of its geographical scope. Research results have been presented by scientists from many UK field sites of Russia, including Far Eastern Russia. Eastern and Western Siberia. Ural. and North-West Russia. The meetings also included discussions on circumpolar mobility, teacher education, Arctic science data analytics, the role of science diplomacy in the Arctic, and reflections on scientific challenges from the perspective of national Arctic strategies of the Russian Federation

We also realized how important it was to promote knowledge of Arctic science and international cooperation in the region among the youth, and this was the aim of the workshop "Researcher Connect" held in cooperation with the British Council. The intensive three-day training program was an excellent opportunity for young

institutions to improve their skills on science

In the concluding stage of the project, the UArctic Research Office is preparing a conference proceedings volume for publication. The book will include the project materials and conference papers, and will be disseminated at various international events such as the upcoming UArctic Congress 2018.

The UK-Russia project aimed at and successfully created networks between both researchers and institutions. Concrete outcomes include, for instance, a formal Memorandum of Understanding between NArFU and the University of Aberdeen; a Researcher Links workshop grant for "Archaeology and Cultural Geography of Arctic and Subarctic Coastal Regions" (NArFU, Durham University); and collaboration on oil spills, seminars and a joint publication (NArFU, University

WILLIAM PETTERSSON

When most people hear 'British Columbia' (BC) they think about the gorgeous inlets along the Sunshine Coast, the vibrant culture of metropolitan Vancouver or the lush vineyards of the Okanagan. Although being vital to the brand of BC and great attractors of tourists and delegations from all over the world, these southern areas only make up about half(!) of the province. My personal history with BC started in 2013 when I, as many individuals before and after me, came to experience the "ski-bum" lifestyle in Whistler. I was completely blown away by the natural beauty of the mountains, the people and the seemingly carefree attitude toward the work/play balance in life; I believed I had found my paradise! All good things eventually come to an end (or at least to a temporary stop), and my visa obliged me to return home to Sweden. However, somehow I could never stop thinking about my experiences, and I made a promise to myself to one day return to this Garden of Eden.

Fall 2016: I am now in my second year of studies at the International Business Program at Umeå School of Business, Economics and Statistics, and it is time to apply for exchange semesters. Among the myriad of interesting options, I could not shake the feeling that BC was calling me to come back. As fate had it, an opportunity to study at UNBC in Prince George via the north2north program emerged as the number one choice

To be completely honest, I was not sure what to expect when I got on the plane leaving for Canada in August 2017. I had little to no knowledge regarding what northern BC was about. The media is always reporting about occurrences in the south; it's as if the northern part of BC (again, this is half of the province!) doesn't exist. Being a student at a northern

> university in Sweden, the phenomenon of a 'forgotten North' is not new to me – I face it on a daily basis.

This is where the true value of the north2north initiative lies. It allows students to open their eyes to new and unconventional parts of the world, where the human capital is incredibly rich, the spirit of innovation is thriving, and the drive to break the geographical constraints and rise above them is ever-

I am eternally grateful for being blessed with having my mind opened to the ample opportunities for societal growth and community-building being displayed in northern BC, and I encourage anyone who might be reading this to go and experience this energy and ambition first hand!

Without the northern lights to light the way, we'll stay in the dark forever.

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