

Final category: 4. Strengthening international Arctic cooperation, incl education and research

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Arctic Migration Research Cluster - interdisciplinary research cooperation on Arctic human migration for the purposes of centralization of the migration research

Pavel Tkach

Arctic Centre University of Lapland, Rovaniemi, Finland

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The session's main focus will be paid to existing challenges in the Arctic migration research, underestimating the topic and gaps in knowledge that should be filled through national and international research cooperation. During the session, we will propose a new model of research cooperation that will include the UArctic Thematic Network on Arctic Migration and cooperation of the domestic stakeholders with the starting point at the Arctic Centre of the University of Lapland. The session will aim at attracting new stakeholders to UArctic Thematic Network on Arctic Migration and Arctic Migration Research Cluster and to develop partnerships for participation in joint development projects.

Session format

2. Oral and poster presentations

Open or Closed Session

Closed

Innovation and pedagogy in Circumpolar Studies

Anthony Speca¹, Heather Nicol¹, Gary Wilson²

¹Trent University, Peterborough, Canada. ²University of Northern British Columbia, Prince George, Canada

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

This session is devoted to educational innovation and pedagogical scholarship related to the Arctic or Circumpolar North at university or secondary school, including not only regular classroom teaching, but also online delivery (e.g. the UArctic Circumpolar Studies Programme) and other modes of learning (e.g. Model Arctic Council at secondary-school or university). Papers regarding innovation or pedagogy in the humanities, social sciences or natural sciences are equally welcome. One main goal of this session is to understand better how teaching of the Arctic or Circumpolar North is embedded within certain 'framings' or 'imaginaries'. Another is to investigate critically the institutional structures in which this teaching takes place. It is hoped that this session will also go some way to promoting international linkages and the sharing of best practice between educators concerned with the Arctic or Circumpolar North.

Session format

1. Oral presentations only

Open or Closed Session

Open

Working in the Arctic: Health, Safety and Success

Natalia Simonova^{1,2}, Sirkka Rissanen³, Yana Korneeva², Mariya Tynkina², Anastasiya Korneeva²

¹Moscow State University, Moscow, Russian Federation. ²Northern Arctic Federal University, Arkhangelsk, Russian Federation. ³Finnish Institute of Occupational Health, Oulu, Finland

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The focus of the session is to increase awareness of occupational health and safety and to strengthen cooperation in the Arctic working life. The session introduces state-of-art research on changing working conditions, businesses and successful improvements in the Arctic region. We invite papers which extend our knowledge of thermal and physical stress of work, use of PPE, occupational health, as well as psychological consequences of working life in the Arctic. Papers of occupational safety in general and from the individual actions, group and organizational factors point of view are welcomed. Recent studies of the impacts of climate change on work and workers in the Arctic can also be introduced. The aim of the session is to give opportunities to exchange experiences on education and share research results in the fields of physiology, psychology and medical support of labor.

Session format

2. Oral and poster presentations

Open or Closed Session

Open

Academic Cooperation across the UArctic

Diane Hirshberg^{1,2}, Marina Kalinina^{3,4}, Kirsi Latola^{5,6}, Douglas Causey¹, Heather Nicol⁷

¹University of Alaska Anchorage, Anchorage, USA. ²UArctic, Anchorage, USA. ³Northern Arctic Federal University, Arkhangelsk, Russian Federation. ⁴UArctic, Arkhangelsk, Russian Federation. ⁵University of Oulu, Oulu, Finland. ⁶UArctic, Oulu, Finland. ⁷Trent University, Peterborough, Canada

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

In this session, the UArctic Vice-Presidents Academic, Interregional Cooperation and Networks will discuss the state of academic cooperation across UArctic. They will share the results of the UArctic Survey of Arctic Studies Offerings, fielded in both English and Russian to UArctic institutions across the north, as well as the findings from related analyses of cooperation among UArctic institutions. Representatives of institutions offering joint courses and programs will be invited to share their models, and lessons learned from these collaborations. Session attendees will be invited to dialogue with panelists about barriers to and supports needed for developing and offering joint educational programs, with the goal of developing new ideas for growing academic cooperation across the UArctic network and beyond.

We will be adding 1-2 representatives of Russian UArctic institutions to this panel as well as 1-2 students to speak to their experiences in these collaborative programs. We will aim to have geographic, gender and ethnic diversity amongst the panel as a whole.

Session format

3. Panel discussion

Open or Closed Session

Closed

Facilitating research collaboration and education on Siberian environmental changes: INTERACT - SECNET experience

Sergey Kirpotin¹, Terence V Callaghan^{2,3}

¹Tomsk State University, Tomsk, Russian Federation. ²Tomsk State University, Tomsk, Russian Federation. ³Sheffield University, Sheffield, United Kingdom

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

Despite numerous research activities by Russian and Foreign scientists in Siberia, a coherent picture of environmental changes, their drivers and societal consequences remains largely unavailable to the global communities. However, the societal consequences of changes in the Siberian environment are likely to have implications for the global community as well as for local residents. Without a coherent picture of these changes, it is difficult to identify gaps in knowledge, potential synergies of bringing actors from different research fields to work together. We need a coherent picture to be able to apply knowledge-based management to resources, ecology and the environment.

Proposing this session with major Arctic terrestrial research network INTERACT and the Siberian Environmental Change Network we aim: 1. to increase through research understanding of interactions and feedbacks between the Arctic and the southern lands adjoining the Arctic; 2. to identify the better ways to develop the interactions among the key players, including local population who act around common objectives; 3. to identify relevant areas, knowledge, outreach processes to develop and promote educational resources for better understanding of environmental changes and their social impacts; 4. to use the different types of knowledge to recommend environmental change adaptation strategies to local peoples and decision makers. The session expected to contribute to sustainable future of Siberia which undergoing rapid environmental change.

During the session we suppose to present a numerous examples of mutual collaborations in research and education, both recognized on the highest intergovernmental level and using by ordinary peoples in their daily practices.

Session format

4. Round table discussion

Open or Closed Session

Closed

Higher education cooperation in climate education

Laura Riuttanen

University of Helsinki, Helsinki, Finland

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

Rapid climate change poses challenges to Arctic societies, and there is a need of competencies to live with the consequences of changing climate. Challenges are complex and require multidisciplinary also in higher education. With enhanced cooperation, the higher education institutions can respond to the urgency and multidisciplinary of the challenges. Proposed solutions include networks in education, joint teaching or teaching materials across institutions, online courses, joint training courses, micro-masters, as well as educational programmes on climate change related topics. Arctic research stations as well as global or regional models also produce data that is needed to develop competencies of the Arctic societies. How to educate to the usage of climate observations and models in a comprehensive way? Aim of the session is to bring together higher education institutions, including teachers and researchers, to share best practices and discuss potential future collaboration around climate related education.

Session format

2. Oral and poster presentations

Open or Closed Session

Open

Strengthening cooperation on the Arctic education and research between Arctic and Non-Arctic universities

Anatoly Nikolaev^{1,2,3,4,5}, Yifan Li^{2,1,3}, Roland Kallenborn^{3,2,1,6}

¹North-Eastern Federal University, Yakutsk, Russian Federation. ²Harbin Institute of Technology, Harbin, China. ³Norwegian University of Life Sciences, As, Norway. ⁴Korea Maritime Institute, Busan, Korea, Republic of. ⁵Hokkaido University, Sapporo, Japan. ⁶Lomonosov Moscow State University, Moscow, Russian Federation

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The Arctic is the territory of individual sovereign states, as well as a region of global importance. The enormous importance of the Arctic for all mankind is primarily determined by the fact that it is region that affects the general state of the environment around the world.

Sustainable development of the Arctic region is a global problem, which requires the establishment of international cooperation both among the Arctic and non-Arctic countries. The countries of Northeast Asia are showing particular interest in the possibilities of the Arctic region.

Sakha Republic (Yakutia), in terms of its geographical position, can act as a region connecting the Arctic and the countries of Northeast Asia.

The uniqueness of the geopolitical position and the experience of international interaction allow NEFU, located in the Sakha Republic (Yakutia) and member organizations of the University of the Arctic to build models of international cooperation "Arctic - Asia" and act as a connecting bridge between researchers and leading scientific and educational organizations of the countries of the Arctic and Asia-Pacific regions.

Holding a session on the topic: "Strengthening cooperation in the field of education and research between the universities of the Arctic and non-Arctic countries" will allow experts and scientists to have a conversation in the format of an open panel discussion on issues of sustainable development of the North and the Arctic, the results and achievements of international scientific and educational cooperation in the Arctic, new ideas, projects for interuniversity cooperation in the field of Arctic research.

Session format

3. Panel discussion

Open or Closed Session

Open

Collaborative educational programs, training and research on Arctic safety and security

Natalia Andreassen¹, Odd Jarl Borch¹, Svetlana Kuznetcova², Dimitrios Dalaklis³, Linda Marie Stakkeland⁴, Erik Henriksen⁴, Ensieh Roud¹, Nataly Marchenko⁵, Olof Oscarsson⁶, Jacob Taarup-Esbensen⁷, Cameron Carlson⁸

¹Nord University, Bodø, Norway. ²Northern (Arctic) Federal University, Arkhangelsk, Russian Federation. ³World Maritime University, Malmö, Sweden. ⁴The Arctic University of Norway, Tromsø, Norway. ⁵The University Centre in Svalbard, Longyearbyen, Norway. ⁶Mid Sweden University, Östersund, Sweden. ⁷University College Copenhagen, Copenhagen, Denmark. ⁸University of Alaska Fairbanks, Fairbanks,, USA

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The session will be organized by UArctic Thematic Network on Arctic Safety and Security. The network, established at the UArctic Congress, St. Petersburg, September 2017. The network's overall goal is to provide knowledge and education that may mitigate the risk of accidents and major threats to life, environment values and communities.

In this session, we will reflect on what are called "wicked problems" within emergency response and elaborate on innovative platforms for joint training and education within emergency management to increase cooperative skills and partnership effectiveness. This session aims also to contribute to international collaboration among the Arctic countries between academia and the professional agencies. It will emphasize the sharing of educational resources and infrastructure such as simulators and laboratories among academia, the professional preparedness institutions and industry. In the session we will also discuss innovation areas as to the development of simulators and other training and exercise platforms. Moreover, in this session, we will focus on experiences from the annual Student Barents Rescue exercise, discuss the enhanced education capabilities through cooperation and further steps in the project.

Session format

2. Oral and poster presentations

Open or Closed Session

Open

Petroleum potential of the Arctic: international exploration and development

Anna Suslova¹, Anrew Kolybakin², Christian Haug Eide³, Anatoliy Nikishin¹, Antonina Stoupakova¹

¹Lomonosov MSU, Moscow, Russian Federation. ²Rosneft, Moscow, Russian Federation. ³University of Bergen, Bergen, Norway

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

Petroleum Arctic potential is one of most crucial and relevant subject in the Arctic region. What are the oil and gas resources and where they are located in the Arctic? Which methods and approach shall we use to explore the new fields with no impact on the unique Arctic environment? What kind of international collaboration can help for the efficient Arctic development and which skills are needed to work with the Arctic resources? All this issues are going to be discussed on the session.

Session format

2. Oral and poster presentations

Open or Closed Session

Open

Arctic contradictions: How to enhance more policy alignment?

Jacqueline Götze¹, Dorothea Wehrmann¹, Gary Wilson²

¹Germany Development Institute, Bonn, Germany. ²University of Northern British Columbia, Prince George, Canada

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

From a global perspective, the Arctic is the world region most vulnerable to climate change. From a regional perspective, the Arctic is a region composed of many different regions that face similar but also very different challenges that are caused by various environmental, economic and societal changes. From a local perspective, policy making that addresses these changes at the national, regional and global levels does not necessarily align nor allow for a coherent implementation at the local level. To tackle this problem and to bring different realities, perspectives, and ultimately policies together, transnational cooperation is crucial as it encourages the inclusion of very different stakeholder groups that often do not have a seat at the table in high-level policy discussions. The Arctic is still mostly praised as a region for strong cooperation. The proposed panel scrutinizes if this cooperation is really as inclusive as it seems: What processes, structures, and norms actually inhibit inclusive policy making at the local, national and regional levels? What policy contradictions result from this? How can particularly local perspectives from the Arctic be better considered in policy making across all levels? What is the potential of city networks such as the recently formed Arctic Mayors Forum in fostering collaboration? This panel is interested in empirical contributions and scientific models and concepts that may advance inclusive policy making in the Arctic and beyond.

Session format

3. Panel discussion

Open or Closed Session

Open

Strengthening pan-arctic research through networking and infrastructure provision

Margareta Johansson¹, Terry Callaghan^{2,3}

¹Lund university, Lund, Sweden. ²Sheffield University, Sheffield, United Kingdom. ³Tomsk State University, Tomsk, Russian Federation

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The session will be organised by INTERACT a network of 89 terrestrial northern research stations. It will bring together researchers that have developed new collaborations, infrastructure managers who offer facilities for research, and innovative technology experts to focus on the world's sustainable development goals.

The aims of the session are:

- to enhance science collaboration and networking by presenting successful examples of science collaboration throughout the Arctic.
- to practically facilitate ground-breaking science by providing state-of-the-art facilities throughout the circumpolar North.
- to support research station operations by interfacing station's staff and researchers with developing technologies for environmental research and monitoring.
- to interface research and monitoring results with local communities and educators e.g. SECNET.

The focus of the session is to identify the challenges of the changing Arctic terrestrial environment for the local populations and global communities and to increase the awareness of these challenges to all levels of society. In addition to a sustainable development goals focus, we show-case "blue skies" research.

Session format

1. Oral presentations only

Open or Closed Session Closed

Arctic Science Diplomacy: Enabling impactful science partnerships and knowledge exchange

Tatiana Iakovleva¹, Rosa Degerman², Yulia Zaika³, Marina Kalinina⁴, Timo Vesala⁵, Mary Edwards⁶, Maarten van Hardenbroek⁷, Evgeny Zarov⁸, Gareth Rees⁹, Olga Tutubalina¹⁰

¹SIN Russia, British Embassy Moscow, Moscow, Russian Federation. ²SIN Finland, British Embassy Helsinki, Helsinki, Finland. ³Kola Science Centre, Apatity, Russian Federation. ⁴Northern Arctic Federal University, Arkhangelsk, Russian Federation. ⁵University of Helsinki, Institute for Atmospheric and Earth System Research (INAR) Viikki Plant Science Centre (ViPS), Helsinki, Finland. ⁶University of Southampton, Southampton, United Kingdom. ⁷Newcastle University, Newcastle, United Kingdom. ⁸Yugra State University, UNESCO chair "Environmental dynamic and global climate changes", Khanty-Mansiisk, Russian Federation. ⁹Scott Polar Research Institute, University of Cambridge, Cambridge, United Kingdom. ¹⁰Lomonosov Moscow State University, Moscow, Russian Federation

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

This 90-minute session will showcase the Special Edition of the Polar Record journal dedicated to Arctic Science Diplomacy and will bring together UK, Russian, Nordic and international researchers and experts to:

- discuss the role of science diplomacy in driving forward dynamic impactful Arctic science collaborations at local, regional and international levels and the important contribution that different science diplomacy actors are making to this end, with a special focus on UArctic, APECS, universities and research centres, national Arctic Offices
- showcase a series of inspiring examples of fruitful regional and international collaborations in Arctic research and education that have contributed to science diplomacy, including those involving Russian, UK and Nordics partners
- discuss the importance of raising awareness of and reflecting on productive examples of science diplomacy as a positive and effective tool of building such collaborations to increase our knowledge of the changing Arctic

We would be keen to explore if some of our participants could join the session remotely (if hybrid mode is at all possible) - if the proposal is accepted.

Session format

3. Panel discussion

Open or Closed Session

Closed

Floating University - Training-through-Research

Grigorii Akhmanov¹, Mikhail Tokarev¹, Natalia Stepanova², Adriano Mazzini³, Alexander Montelli⁴

¹Faculty of Geology, the Lomonosov Moscow State University, Moscow, Russian Federation. ²Institute of Hydrology and Oceanology, the Russian State Hydrometeorological University, Moscow, Russian Federation. ³Centre for Earth Evolution and Dynamics (CEED), University of Oslo, Oslo, Norway.

⁴Peterhouse, University of Cambridge, Cambridge, United Kingdom

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

Training-through-Research (Floating University) is an international multi-disciplinary programme aimed at combining formal academic education with deep involvement of students and early career scientists into real-life scientific investigations in the Ocean, including research cruises and post-expedition processing of the collected field data within international academic communities. Future generations of marine scientists are learning under the supervision of world-class experts and build knowledge in interdisciplinary studies of complex systems, discovering relationships of hydrosphere, atmosphere, geosphere, and biosphere. The project is currently supported by UNESCO. It will be the Capacity Building Working Group for UN Decade of Ocean Sciences.

At the session, we would like to see presentations from various universities, research centers and marine stations about their training-through-research programs dedicated to marine sciences.

Session format

2. Oral and poster presentations

Open or Closed Session

Open

Marine Stations in the Arctic – collaboration and research opportunities, engagement with the World Association of Marine Science

Alexander Tzetlin¹, Matthew Frost², Anna Gebruk³

¹Pertsov White Sea Biological Station of Lomonosov Moscow State University (WSBS), Moscow, Russian Federation. ²European Network of Marine Stations (MARS); Marine Biological Association (MBA), Plymouth, United Kingdom. ³Lomonosov Moscow State University Marine Research Center, Moscow, Russian Federation

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The focus of this round-table discussion session is to bring together representatives of the marine research stations in the Arctic, their collaborators, and those, interested in conducting station-based research at the high latitudes to discuss (1) how we can collaborate more effectively; (2) what lessons and opportunities can be taken forward from the recent establishment of the World Congress of Marine Stations endorsed by the UN Decade of Ocean Science for Sustainable Development; (3) case studies and opportunities for Universities to conduct research at marine stations in the Arctic.

The session is open for contribution, the detailed agenda to be confirmed.

Session format

4. Round table discussion

Open or Closed Session

Open

Biodiversity research and monitoring in the Arctic – learning from international experience

Alexander Tzetlin¹, Anna Gebruk²

¹Pertsov White Sea Biological Station of Lomonosov Moscow State University (WSBS), Moscow, Russian Federation. ²Lomonosov Moscow State University Marine Research Center, Moscow, Russian Federation

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

“Arctic biodiversity is an irreplaceable cultural, scientific, ecological, economic and spiritual asset” as stated by the Arctic Council. This session is aimed to review the diversity of approaches used to study and monitor current state and dynamics of biodiversity in the Arctic, from long-term ecological monitoring, to remote sensing, parallel observations and research projects. We invite researchers, working groups and individuals to contribute a case study to this session highlighting their advances in the research and monitoring of Arctic biodiversity, we will then identify common themes and collaboration opportunities as a result of this session.

Session format

2. Oral and poster presentations

Open or Closed Session

Open

Sustainable Development in the Arctic: Social, Economic and Environmental Research Cooperation Across Borders

Tina Bringslimark, Bjørn Olsen, Nadezda Nazarova

Nord University, Bodø, Norway

Theme

4. Strengthening international Arctic cooperation, incl education and research

Abstract text

The Arctic, with its abundance of natural resources, may hold the key to solving many of the existing global challenges. As a result, during recent decades we have observed an increased interest in the potential of discovered and undiscovered Arctic resources as from Arctic so from non-Arctic countries. Still, the Arctic most precious and extremely important resource that shapes social capacity of the region - Arctic people - has so far stayed extremely underresearched.

To deal with the complexity of sustainable Arctic future, all kinds of knowledge are required, i.e. from natural and social sciences. However, social science research counts to only 7 % of all Arctic research being produced. Such a distorted representation of the Arctic region leaves behind a huge knowledge gap and provides rather limited and often misleading understanding of the region's opportunities and challenges.

To address this challenge, Nord University and Nordland Research Institute is launching the "SEE North" initiative that focuses on social, economic and environmental issues of of the Arctic sustainable development from a social science perspective. The primary purpose of this session is to present current results of this and other similar initiatives in the Arctic. Second, to share experiences and to discuss opportunities for cooperation on further development of research related to socially, economically and environmentally sustainable development in the Arctic.

Session format

4. Round table discussion

Open or Closed Session

Open