



Arctic Science Summit Week 2021

19-26 March | Online, Portugal

*Theme A: The Arctic Regional Changes,
Global Impacts*

Detailed session program



ID:05 - The Object: Regional Messenger, Global Message

The Arctic: Regional Changes, Global Impacts

24 March 2021 | 19:00 - 21:00 GMT | Room A

Conveners:

Frigga Kruse | Kiel University

Franziska Paul | Kiel University

In this session, archaeological science and tangible cultural heritage take centre stage in the interdisciplinary polar research agenda. Archaeology has a long tradition of being a thematic and methodological "interdiscipline". Our daily bread is the study of continuous human adaptation to age-old environmental and social change. We invite oral and e-poster presentations from across the range of heritage professionals and stakeholders for a show and tell: Introduce the one archaeological object (alternatively one structure, site, or landscape) that to you embodies an indispensable polar aspect and bears witness to recent changes, and deliver its global message that may otherwise be left unheard. Preference will be given to submissions that demonstrate a clear link to the conference call. We strongly encourage traditional and Indigenous participation and perspectives.

24 March 2021 | 19:00 - 21:00 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|------------------------|
| 19:00 | Introduction by the conveners | |
| 19:05 | A 19th Century Inuvialuit House: Messenger of Profound Cultural and Climatic Change | Max Friesen |
| 19:20 | Carving an Ipiutak identity. A 1. Millenia AD burial site at Point Hope in Alaska. | Claire Houmard |
| 19:35 | Impacted Archaeology and Communities in a changing environment: a view from SW Alaska. | Edouard Masson-MacLean |
| 19:50 | Seeking the Origin of Bear Ceremony | Hirofumi Kato |
| 20:05 | Sharing the Game. Archaeological evidence of hunting ethics and strategies – past and present. | Ulla Odgaard |
| 20:20 | The Central North Atlantic Marine Historical Ecology Project | George Hambrecht |
| 20:35 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| | Title | Presenting author |
|--|---|-------------------|
| | Polar CHESS, Cultural Heritage and Environmental Scientific Studies | Bryan Lintott |
| | The Actualisation of Past Architecture in Arctic's Future Urban Landscape | Asta Mønsted |

ID:10 - Governance in the Central Arctic Ocean: from local to global

The Arctic: Regional Changes, Global Impacts

26 March 2021 | 15:30 - 17:30 GMT | Room C

Conveners:

Austin Ahmasuk | Kawerak, Inc., Nome, Alaska, USA

Liling Xu | Dept. of Geography, Royal Holloway, University of London, UK

Henry Huntington | Ocean Conservancy, Eagle River, Alaska, USA

The Central Arctic Ocean (CAO) Fisheries Agreement highlighted both the need and the potential for international governance in this region. Now, commercial shipping has the potential to take transpolar routes through the CAO, in addition to the Northern Sea Route and Northwest Passage. Ships transiting the Arctic Ocean must also travel through the Bering Strait and the hunting and ancestral areas of local Indigenous communities. Similarly, fisheries within the EEZs of Arctic states are likely to affect fish stocks in the CAO as well as the willingness of distant-water fishing states to continue to stay out of these high seas waters. We propose a session to examine these multiple strands of governance across scales and sectors to consider (a) shared goals and principles such as ecosystem-based management, (b) the respective roles of different institutions and governments, and (c) research and action needed to work together in accordance with principles of equity and effectiveness.

26 March 2021 | 15:30 - 16:30 GMT | Room C | Oral Presentations

| Time | Title | Presenting author |
|-------|---|-------------------|
| 15:30 | Introduction by the conveners | |
| 15:35 | Locating China's Arctic engagement in China's strategic transformation to the sea and ocean | Liling Xu |
| 15:50 | Safeguarding Local Communities in the Bering Strait with Indigenous Knowledge Inclusion and Frontline Efforts | Austin Ahmasuk |
| 16:05 | The BBNJ Agreement and the Implementation of Ecosystem-Based Management in the Central Arctic Ocean | Kentaro Nishimoto |

ID:47 - Regional Changes, Global Impacts in Arctic Fisheries

The Arctic: Regional Changes, Global Impacts

26 March 2021 | 15:30 - 17:30 GMT | Room C

Conveners:

Brooks Kaiser | University of Southern Denmark

Linda Fernandez | Virginia Commonwealth University

Melina Kourantidou | Woods Hole Oceanographic Institution

COVID-19 is accentuating regional changes in Arctic fisheries. This session highlights fisheries lessons from the pandemic within the Arctic as well as at the global scale. Many Arctic and sub-Arctic fisheries such as crab span multiple locations in the Arctic, and most commercial Arctic fisheries have transport-intensive supply chains. Significant shocks are occurring from vessel, port, and processing facility restrictions, air transport reductions, general market access for producers and consumers, income and substitution effects, etc. Ecosystem impacts may also be underway as harvests decrease and marine traffic slows, though harder to identify and measure in real time. This session aims to identify data and theory to help empirical analyses using bioeconomics and interdisciplinary analysis. The changes raise issues of resilience, adaptability in resource management, monitoring, enforcement and policy coordination at various scales involving civil society and cooperative actions.

26 March 2021 | 16:30 - 17:30 GMT | Room C | Oral Presentations

| Time | Title | Presenting author |
|-------|--|--------------------|
| 16:20 | Introduction by the conveners | |
| 16:25 | Bioeconomic analysis accounting for environmental effects in data-poor fisheries: The Northern Labrador Arctic Charr | Melina Kourantidou |
| 16:40 | Russian King Crab Sourcing in the United States and Traceability Pilot | John Simeone |
| 16:55 | Walking a Tight Line: Management of a New Arctic Fishery With Spatially Differentiated Ecological-Economic Externalities | Linda Fernandez |
| 17:10 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session (ID:47)

| | Title | Presenting author |
|--|---|-------------------|
| | Dense mesopelagic sound scattering layer and vertical segregation of pelagic organisms recorded at the Atlantic gateway to the Arctic Ocean during the midnight sun | Pierre Priou |
| | Russian IUU Regulation and Snow Crab Fisheries in the Northwestern Pacifica: Impacts on Japanese Markets | Kanae Tokunaga |

ID:41 - An ambivalence/paradox of Arctic development: the environment vis-à-vis economy

The Arctic: Regional Changes, Global Impacts

24 March 2021 | 16:30 - 18:30 GMT | Room A

Conveners:

Mário Pontes | UArctic Thematic Network on Geopolitics and Security

Francisco Cuogo | University of Minho

Heather Exner-Pirot | Arctic Yearbook

The Arctic is becoming increasingly integrated into world affairs while the region is simultaneously experiencing the growing impacts of pollution, climate change and mass-scale utilization of resources, and their combination. Actors seeking to develop the region, however, do not necessarily align with the geopolitical narrative of the Arctic as a fragile environment in need of heightened protection and preservation. Following from this, there is an ambivalence or paradox in Arctic development when a balance is sought between environmental protection / climate change mitigation, and an increase in economic activities (as a 'new normal'). This session seeks to explore, analyze, and critique narratives and trends of Arctic development, and responsibilities and potential for mitigation and sustainable development in the midst of environment vs. economy competition. How are actors responding to this clash, and who are the primary players? How do we overcome the above-mentioned paradox? What policies developments are already been put in place, to support regional and local development, and what policy developments should be made?

24 March 2021 | 16:30 - 18:30 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|-------------------|
| 16:30 | Introduction by the conveners | |
| 16:35 | Geo-economics, Arctic, and Circular Economy | Mário Pontes |
| 16:50 | How can transnational cooperation among subnational actors help to overcome the paradox of Arctic development? | Michał Łuszczuk |
| 17:05 | Scenarios for sustainable socio-economic development in the Arctic till 2050 | Alexey Kalinin |
| 17:20 | Sustainable Development in Yakutia: Economic, Environmental and Innovative Aspects | Anisiia Lazareva |
| 17:45 | The "Arctic Paradox" and development of Russian extractive projects in the Arctic | T. Burmenko |
| 18:00 | The Regulation of Heavy Fuel Oil in Arctic Shipping: Interests, Measures and Impacts | Jiayu Bai |
| 18:15 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| | Title | Presenting author |
|--|--|-------------------|
| | Observing the arctic from canada`s “north” | Valter Claudio |

ID:43 - Arctic Security: from the geostrategic ‘game’ of superpowers to global resource competition or societal security?

The Arctic: Regional Changes, Global Impacts

25 March 2021 | 08:00 - 10:00 GMT | Room A

Conveners:

Sandra Balão | University of Lisbon

Ecaterina Crihan / Sara Coutinho | University of Lisbon

Lassi Heininen | University of Helsinki

There are narratives and perceptions that the Arctic is influenced by geostrategic ‘game’, as it was in the Cold War, and consequently, there are resource competition and emerging conflicts. At the 2020s the Arctic reality, however, seems to be quite different, as high geopolitical stability based on cooperation is successfully been constructed. At the same time, grand environmental challenges with growing uncertainty are putting Arctic societies into a danger, much indicating an importance of ‘societal security’. Therefore, an alternative is to lean on the rhetoric of comprehensive security and disarmament based on mutually-beneficial constructive cooperation, instead of military-based national security and hegemony competition spending billions to arms race and strategies instead of climate change mitigation. This session seeks to explore, analyze and critique narratives, perceptions and discourses on Arctic security, as well as main security risks and challenges resulting from the current situation. Who are actors of security, and how do they respond to this dichotomy? How societal / human security is / should be defined, constructed and developed?

25 March 2021 | 08:00 - 10:00 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|---------------------------|
| 08:00 | Introduction by the conveners | |
| 08:05 | From Peary to Pompeo: the history of United States’ (de)securitizations of Greenland | Marc Jacobsen |
| 08:20 | The Role of the Arctic Coast Guard Forum in Maintaining Arctic Security | Ognyan Savov |
| 08:35 | Evolution of changes in the Arctic from the perspective of the Regional Security Complex | Leszek Krzysztof Sadurski |
| 08:50 | The new geopolitical competition on the very top of the globe | Ecaterina Crihan |
| 09:05 | Thinking about human security in the Russian Arctic | Alexander Sergunin |
| 09:20 | Keeping the Peace in the Arctic: Strategic Choices & Perceived Risks Among Stakeholders | John De Rosa |
| 09:35 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| | Title | Presenting author |
|--|--|----------------------|
| | Arctic security: main risks and challenges | Onur Limon |
| | Necropolitics and Arctic security: identifying key contested concepts in the energy sector | Ángel Eduardo Rivera |
| | The Arctic Region: a matter of societal security or securitization diplomacy? | Sandra Balão |

ID:62 - Arctic climate change and its impacts on weather and climate in the midlatitudes

The Arctic: Regional Changes, Global Impacts

24 March 2021 | 08:00 - 10:00 GMT | Room A

Conveners:

Thomas Jung | Alfred Wegener Institute

Yongqi Gao | Nansen Environmental and Remote Sensing Center

Guokun Lyu | University of Hamburg

The Arctic is warming and melting at alarming rates. How, where, and when climate change in the Arctic will affect weather patterns around the globe is a matter of debate and a rapidly evolving research topic. Changes in prevailing weather patterns can affect the frequency and magnitude of extreme events in the Northern Hemisphere and, hence, impact economic activities sensitive to weather conditions, such as agriculture, transport or energy production and consumption. Understanding Arctic-midlatitude linkages is an important tool for managing the risks, as well as potential opportunities, arising from a changing climate. This session will bring together research scientists from a diverse range of disciplines and projects, including EU Polar Cluster projects, as well as stakeholders from around the globe. The aim is to exchange knowledge and share experiences and novel results on how Arctic's warming influences weather, and therefore impact human activities, in midlatitudes. We can discuss together about the scientific consensus on the topic and how this new knowledge can benefit policy-makers, society and businesses in Europe and beyond.

24 March 2021 | 08:00 - 10:00 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|---------------------------------|
| 08:00 | Introduction by the conveners | |
| 08:05 | A clear role of Arctic sea ice loss for the winter Warm Arctic Cold Eurasia trend | Rohit Ghosh |
| 08:20 | Arctic sea-ice loss intensifies the aerosol transport to the Tibetan Plateau | Fei Li |
| 08:35 | Arctic-midlatitude linkages: role of sea ice loss versus full Arctic Amplification | University of California Irvine |
| 08:50 | Direct Observations of Arctic-Midlatitude Connections | James Overland |
| 09:05 | Making advanced Arctic predictions a reality: the APPLICATE project | Thomas Jung |
| 09:20 | Possible linkages of Arctic Oscillation on Siberian high and impact on the climate of the Maritime Continent | Muhammad Akmal Amani Bin Ahnuar |
| 09:35 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| | Title | Presenting author |
|--|---|-----------------------------|
| | Increasing occurrence of heat waves in the terrestrial Arctic and middle latitudes | Pozzoli Luca |
| | Re-emergence of SST anomalies as an important source of predictability of wintertime sea ice cover in the Barents Sea | Pawel Schlichtholz |
| | Wind conditions in the summer seasons in the Arctic region of Oscar Land II (NW Spitsbergen) in the period 1975-1989 | Rodrigo Rudge Ramos Ribeiro |

ID:65 - Mid- and low-latitude impacts on the Arctic and Antarctic

The Arctic: Regional Changes, Global Impacts

24 March 2021 | 10:30 - 12:30 GMT | Room A

Conveners:

Timo Vihma | Finnish Meteorological Institute, Helsinki, Finland

Genrikh Alekseev | Arctic and Antarctic Research Institute, St. Petersburg, Russia

Natalia Gnaniuk Nansen | International Environmental and Remote Sensing Centre, St. Petersburg, Russia

Mid- and low-latitudes impact the Arctic and Antarctic via various processes. In the atmosphere, poleward transports of heat and moisture are carried above all via transient cyclones typically originating from mid-latitudes. In addition, teleconnections generated by the tropical SST anomalies, Madden-Julian Oscillation, and Quasi-Biennial Oscillation affect the Arctic and Antarctic, also providing predictability in sub-seasonal to seasonal time scales. In the ocean, heat and salt is transported poleward via the mean meridional circulation and eddies. The El Niño / Southern Oscillation, Pacific Decadal Oscillation, and Atlantic Meridional Overturning Circulation play a key role in the linkages between low, mid and high latitudes. Challenges still remain in understanding and quantification of the mid- and low-latitude impacts on the Arctic and Antarctic. Major issues include bi-polar differences in the large-scale atmospheric and oceanic circulation and their impacts, challenges in modelling the circulation, transports and teleconnections, as well as their response to the global climate change. The session welcomes presentations on the above-mentioned and closely related topics.

24 March 2021 | 10:30 - 12:30 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|------------------------|
| 10:30 | Introduction by the conveners | |
| 10:35 | Interaction between Atlantic cyclones and Eurasian atmospheric blocking drives warm extremes in the high Arctic | Sonja Murto |
| 10:50 | Multi-decadal tropical-Arctic atmospheric teleconnections and their influences on summer Greenland Ice Sheet melt | Dániel Topál |
| 11:05 | Non-stationary relation between El Niño-Southern Oscillation and sea surface temperature in the Barents Sea. | Sourav Chatterjee |
| 11:20 | Stratospheric modulation of marine cold air outbreaks in the Arctic | Hilla Afargan-Gerstman |
| 11:35 | The vertical structure of life in the oceans tracks temperature toward the poles | Julek Chawarski |
| 11:50 | Using reconstructed Irminger Water changes within the past three decades to connect the West Greenland shelf to the production of Labrador Sea Water | Kevin N. Wiegand |
| 12:05 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| Time | Title | Presenting author |
|------|---|---------------------|
| | AMOC Evolution at 47°N in the last decades in a High-Resolution Ocean Model and Observations | Simon Wett |
| | Influence of sea surface temperature in the tropics on the Antarctic sea ice during global warming | Anastasia Vyazilova |
| | Influence of springtime Okhotsk high on rapid discharge increase accompanied by river ice melt in eastern Siberia | Kazuhiro Oshima |
| | The role of low latitudes in the Arctic warming | Genrikh Alekseev |

ID:66 - Arctic Science Diplomacy in the Rapidly Changing World: Global Trends and Regional Impacts

The Arctic: Regional Changes, Global Impacts

25 March 2021 | 11:30 - 13:30 GMT | Room A

25 March 2021 | 15:30 - 17:30 GMT | Room A

Conveners:

Yulia Zaika | International Arctic Science Committee (IASC), Kola Research Centre of the Russian Academy of Sciences

Yekaterina Kontar | National Science Foundation, Office of Polar Programs, Arctic Sciences Section

Tatiana Iakovleva | UK Science and Innovation Network in Russia (SIN Russia)

Science diplomacy plays an integral role in international science facilitation and communication being an element of soft power that enables the nations to build comprehensive longer-term and stable science dialogue at different levels from the global arena to national, regional, and even institutional actors. While being such a powerful and overarching instrument, science diplomacy constantly experiences paradigm shifts driven by the multiple and multidimensional internal (regional, national) and external (global) changes which have the direct co-influence on each other. Current global environment and the rapid changes it undergoes shape the state of science diplomacy by putting forward both challenges and opportunities not only at the level of international science but also regionally through bilateral, cross-border cooperation and regional interconnections. Increasingly, our understanding of the importance of science diplomacy drives forward adaptability and innovation and through this - continuity of scientific interaction. This is what we witness today despite the challenges brought about by the coronavirus pandemic, with temporarily closed national borders, limited mobility, and switching to online communication formats. One of the recent successful examples of delivering science diplomacy in this challenging global context is the flexible shift of the ASSW2020 conference to online format with the support of the Icelandic government. Institutionalization of online conferences is becoming a global practice and a new trend. At the same time, a few challenges have jeopardized the development of science communication and collaboration among regional and institutional actors. Closed national borders and restructuring of national regulative rules regarding international mobility have hampered the summer field season in the Arctic including monitoring and observation activities. In this session we aim to discuss Arctic science diplomacy case studies which both exercise examples from the regional to global and global to regional co-influence and explore innovative tools and approaches to delivering science diplomacy in the rapidly changing global context. We invite presentations from scientists, non-academic experts, and actors in this field.

25 March 2021 | 11:30 - 13:30 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|---|--------------------|
| 11:30 | Introduction by the conveners | |
| 11:35 | Growing stronger Arctic science networks through diplomacy: the role of the UK Science and Innovation Network | Tatiana Iakovleva |
| 11:50 | Arctic nature protection as a base of scientific diplomacy development: case study of Institute of Northern Industrial Ecology Problems' international co-operation | Elena Klyuchnikova |
| 12:05 | Mapping venues for science diplomacy in the multidimensional network of Arctic international relations | Nicolas Rüffin |
| 12:20 | Science diplomacy and preparing a next generation of Arctic STEM professionals | Lauren Culler |
| 12:35 | Scientific cooperation catalyses ecological insight in a changing Arctic: a review and perspectives from a bilateral UK-Russia marine science collaboration | Martin Solan |
| 12:50 | Open discussion on orals and posters | |

25 March 2021 | 15:30 - 17:30 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|----------------------|
| 15:30 | Introduction by the conveners | |
| 15:35 | Scientists using Twitter in Arctic Science Diplomacy | Alexandra Middleton |
| 15:50 | The Flawed Logics of Arctic Geopolitics at the Nexus of Arctic Science Diplomacy | Corine Wood-Donnelly |
| 16:05 | The Role of Science Diplomacy in China-Nordic Arctic Relations | Egill Thor Nielsson |
| 16:20 | The Diplomacy of Arctic Operational Research | Douglas Causey |
| 16:35 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| | Title | Presenting author |
|--|--|--------------------------|
| | A Global-optimization Approach to Predicting Changes in Arctic Cargo Vessel Traffic | Wenjie Li |
| | Arctic Science Diplomacy from the Cold War via Circumpolar Cooperation to Sino-American bipolar Competition and Russian Resurgence | Rasmus Gjedssø Bertelsen |
| | Kola Science Centre of the Russian Academy of Sciences: Building the Science for and in Diplomacy for 90 years | Yulia Zaika |
| | Remote sensing of the impact of climate change on northern Russian forests | Gareth Rees |
| | Russia's Arctic science diplomacy: challenges and opportunities | Alexander Sergunin |
| | Science Diplomacy and the Future of Arctic Governance | Ebru Caymaz |
| | The Political Geographies of Science Diplomacy: A Case Study of the Politicization of Chinese Arctic Research | Trym Eiterjord |
| | The Track Least Taken: Arctic International Science Collaborations...A New Direction in Diplomacy | Douglas Causey |
| | UKPN and APECS Russia ECRs collaboration: Short-term and long-term partnerships for capacity building in the Arctic | Saule Akhmetkaliyeva |

ID:94 - Addressing Arctic Change – from Knowledge to Action

The Arctic: Regional Changes, Global Impacts

25 March 2021 | 18:00 - 20:00 GMT | Room A

Conveners:

Volker Rachold | German Arctic Office, Alfred Wegener Institute, Helmholtz Center for Polar and Marine Research

Tahseen Jafry | Centre for Climate Justice, Glasgow Caledonian University

Anna Gebruk | School of GeoSciences, University of Edinburgh

Thorsteinn Gunnarsson | Icelandic Centre for Research (RANNIS)

The COVID-19 crisis has dramatically shown how important scientific knowledge is for political decision making. All over the world, governments are relying on experts advice to decide on measures to combat the pandemic. At the same time, global temperatures are continuing to rise, and the warming processes are going fastest in the Arctic. International efforts on climate and polar science and technology have shown that this has had, and will continue to have, profound global consequences, affecting the livelihoods and sustainability of whole regions and communities not only in the Arctic but across the globe. However, the political response is still unassertive and a clear and effective communication between scientists and policymakers is needed to transform the scientific findings into action. This session aims to explore the role and potential of the science-policy interface in tackling Arctic change and its global effects. It will discuss approaches to transfer scientific knowledge to a defined political target audience and it will present both examples of good practice and challenges. Submissions from all fields, including but not limited to climate change, are encouraged. Policy-making occurs on different levels, reaching from international to national and regional, and contributions from all levels are welcome.

25 March 2021 | 18:00 - 20:00 GMT | Room A | Oral Presentations

| Time | Title | Presenting author |
|-------|--|--------------------------|
| 18:00 | Introduction by the conveners | |
| 18:05 | Framing Co-Productive Conservation for Partnership with Arctic Indigenous Peoples | Victoria Qutuuq Buschman |
| 18:20 | Feedbacks from a warmer Arctic: implications for international climate goals | Rachael Treharne |
| 18:35 | Knowledge Mobilization and Exchange Portal in Support of Sustainable Development of the Arctic (IRIS Portal) | Pascale Ropars |
| 18:50 | Arctic Expressed in Contemporary Art - How to Create Emotions to Understand Knowledge | Hyunjung Park |
| 19:05 | A New Knowledge Gathering Process to Inform Pro-active Co-management of Climate Adaptation: A Case Study in the Western Canadian Arctic | Donald McLennan |
| 19:20 | Clientelism in the Rural North?: A Grounded Framework for Understanding Pressures for Oil Extraction in the Northwest Territories and Alaska | Kelsey Schober |
| 19:35 | Open discussion on orals and posters | |

E-Posters | View in the conference platform and discussion in the session

| Sequence | Title | Presenting author |
|----------|---|--------------------|
| 1 | Connecting policy, law and science for better decision-making for the Arctic: Arctic Council, IPCC, Arctic Science Agreement, and ASM-3 | Kie Abe |
| 2 | Need for Inclusion of Mainland communities in Arctic Research- It's a matter beyond Poles | Vinod Kumar Nathan |