



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