

# EU Arctic Policy: Science as catalyst for international cooperation

Joint Arctic Circle Session of EU-PolarNet, European Polar Board and INTERACT

Reykjavik, 14<sup>th</sup> October 2017, 17:30 – 19:00

## Session description

Climate change, globalisation and geopolitical dynamics challenge the Arctic and its inhabitants. The consequences of these forces increasingly exceed local and national mitigation and adaptation capacities and reach far beyond the high latitudes. A sustainable and prosperous future for the Arctic thus requires regional and international actors to jointly recognise issues and then develop solutions to address these together.

Recognising this, the European Commission and the High Representative have defined International Cooperation on Arctic Issues as a priority area in the integrated European Union policy for the Arctic. Within this area they have assigned a key role to science as a catalyst to support a common understanding, jointly agreed solutions and peaceful cooperation.



Photo: K. Bär (AWI)

Transnational access to research infrastructures and open data resources are seen as important steps towards both an improved scientific cooperation and enhanced political and economic links with key countries in the region. Furthermore the European Commission stated its ambition to develop international scientific cooperation on an international level, through networks such as the Transatlantic Ocean (and Arctic) Research Alliance, and through bilateral cooperation with key Arctic players including Russia, China, South Korea and Japan.

The breakout session was co-organised by EU-PolarNet, the European Polar Board, and the International Network for Terrestrial Research and Monitoring in the Arctic (INTERACT).

It aimed at fostering active discussions on how to further improve international cooperation in Arctic science. After the five brief input presentations, participants were asked to discuss the following questions:

- What are key areas in which large global scale scientific collaboration can contribute to a sustainable development of the Arctic?
- How can we make sure that cooperation efforts, such as projects giving transnational access to infrastructures, are (financially) sustained?

## Speakers

**Karmenu Vella**, Commissioner for Maritime Affairs and Fisheries:

[Opening address via video message](#)

Karmenu Vella is the European Commissioner for Maritime Affairs and Fisheries. He was born in Malta in June 1950. Mr Vella graduated in Architecture and Civil Engineering, and later obtained a Master of Science in Tourism Management from University of Sheffield. He was first elected to Parliament in 1976 and was re-elected nine consecutive times. During his political career, he has been appointed Minister for Public Works, Minister for Industry and Minister for Tourism twice. Mr Vella had also held various senior posts in the private sector.

**Dr Andrea Tilche**, Head of Unit Climate Action and Earth Observation, Directorate General for Research and Innovation, European Commission: [Convener](#)

Dr Andrea Tilche obtained his Doctor Degree in Agricultural Sciences at the University of Milano in 1978. His scientific career was mainly carried out in Italy where he set-up and directed the wastewater treatment laboratories of ENEA in Bologna. In 1998 he moved to the Joint Research Centre of the European Commission as Head of the Water Research Unit, and later to Brussels to lead the Water Key Action in the 5th Framework Programme. Since 2010 he heads the Unit "Climate Action and Earth Observation". He represents the EU at the Intergovernmental Panel on Climate Change and in other international fora.

**Dr Martin Jeffries**, Assistant Director for Polar Sciences & Executive Director, U.S. Interagency Arctic Research Policy Committee, White Office of Science and Technology Policy:

[Facilitating Arctic Science Cooperation via the Canada-EU-USA Atlantic Ocean Research Alliance](#)

Dr Martin Jeffries has been on detail at the Office of Science and Technology Policy, Executive Office of the President, since February 2016. His home agency is the Office of Naval Research, where he is an Arctic Science Advisor and Program Officer for Arctic and Global Prediction. During the International Polar Year 2007-2009, Dr Martin Jeffries was on detail at the National Science Foundation, where he was the Program Director for the Arctic Observing Network. As a researcher at the University of Alaska Fairbanks (1985-2014) he investigated sea ice, freshwater ice, iceberg and ice shelf processes in the Arctic and Antarctica.

**Dr Hyoung Chul Shin**, Head of Department for International Cooperation, Korea Polar Research Institute (KOPRI):

[Observers' Arctic science goes beyond just observing](#)

Dr. Hyoung Chul Shin, a biological oceanographer by training, participated in and coordinated numerous expeditions to the Antarctic and the Arctic. He dedicates much of his time to science as well as science support. His activities and interests include the management of marine living resources in polar waters. He is one of the Vice Chairs of the Forum of Arctic Research Operators (FARO). Dr. Shin is currently the director of KOPRI's Division of Strategy and Cooperation, where he is in charge of strategic planning and developing cooperation with partners. He also serves as the Secretary of the Korea Arctic Research Consortium (Ko-ARC).

**Dr Margareta Johansson**, Coordinator INTERACT:

[From North Atlantic Cooperation to true International Cooperation – the INTERACT story](#)

Dr Margareta Johansson is based at Lund University in Sweden. She has a broad experience in Arctic research, ranging from glaciology/climatology to Arctic ecology and for the last decade she has been focussing on permafrost in a changing climate in northern Sweden. Dr Margareta Johansson was a convening lead authors for two chapters (snow and permafrost) of the AMAP SWIPA assessment 2011. She has recently co-lead the terrestrial ecosystem chapter in the Arctic Freshwater Synthesis. Dr Margareta Johansson has a great interest in outreach. She is currently the coordinator of an EU Horizon2020 project INTERACT networking 83 research stations in the north ([www.eu-interact.org](http://www.eu-interact.org)).

**Prof Alexander Klepikov**, Head of Department for Antarctic Ocean and Climate Studies, Arctic and Antarctic Research Institute (AARI, Russia):

[The Russian perspective on key areas of international cooperation in Arctic research](#)

Prof Alexander Klepikov, educated as a physical oceanographer in 1978 from the Leningrad State University. He obtained his PhD in oceanography at the Leningrad State Hydrometeorological Institute in 1983. From 1992 to 2016, he was the head of Department of the Antarctic Ocean and Climate Studies at the Arctic and Antarctic Research Institute (AARI) in St. Petersburg, Russia. Now he is Deputy Director for Research and International Cooperation of the AARI. His research interests include climate change in the Arctic and Antarctic, and polar oceanography. He has field experience as an oceanographer on seven ocean cruises. He is involved in numerous international programs and groups including AMAP, SCAR, IASC, WCRP/CliC, SOOS and YOPP.

**Dr Verónica Willmott**, Project Manager ARICE (Alfred Wegener Institute, Germany):

[ARICE: Arctic Research Icebreaker Consortium. An international cooperation strategy for meeting the needs for marine-based research in the Arctic.](#)

Dr Verónica Willmott is working for the International Cooperation department of the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, in Germany since 2010. She was the Scientific Coordinator of the European Project “The European polar research icebreaker consortium Aurora Borealis” (ERICON-AB) and coordinated the Evaluation Office of the European Project New operational steps towards an alliance of European research fleets (EUROFLEETS2). Dr Verónica Willmott is the Project Manager of the new EU Horizon2020 project Arctic Research Icebreaker Consortium (ARICE), which aims at providing Europe with better capacities for marine-based research in the ice-covered Arctic Ocean.

## Discussion

In the following, the discussion points raised by the session participants are outlined.

### What are key areas in which large global scale scientific collaboration can contribute to a sustainable development of the Arctic?

- Science cooperation agreement: How to implement it and how to include non-Arctic states
- Data management:
  - Interoperability and agreement on standards
  - Access and availability of data
  - Maximising usability of data and framing it differently (e.g. different stakeholders need to receive the data in different formats)
  - Seasonal data collection (winter)
  - Including indigenous knowledge
- Research methodology:
  - Cumulative impact assessments
  - Improving cross-/interdisciplinary work in order to advance systems analysis
  - Modelling and prediction of different parameters
  - Standardisation of measurements
  - Long-term observation and forecast availability
  - Prioritisation of joint research projects based on expected impact (and risks and benefits)
- Outreach and education:
  - Synthesising existing knowledge and making it more relevant to non-academic stakeholders
  - Education of the young generation: bringing (polar) science into schools
  - Enhancing communication, translation and outreach to make research meaningful to the public and policy makers
- Specific research topics for global scale scientific collaboration:
  - Climate change
  - Sea ice
  - Permafrost (including gas hydrates and natural resource development)
  - Glacier and ice sheet dynamics
  - Marine and terrestrial ecosystems
  - People of the Arctic, including education and their role in science and research
  - Agriculture
  - Fisheries
  - Adaptation and resilience
  - Economic development: role of private sector in science, vessels for observations
  - Sustainable, eco-friendly development
  - Arctic and global system, e.g. teleconnections
  - Understanding tipping points
  - Climate predictability

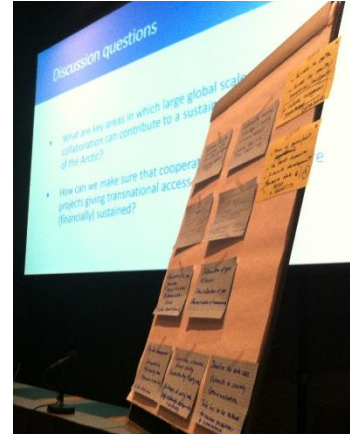


Photo: K. Bär (AWI)

**How can we make sure that cooperation efforts, such as projects giving transnational access to infrastructures, are (financially) sustained?**

- Long-term bi-/multilateral agreements between infrastructure providing institutions
- Collecting bench fees by infrastructure providers
- Align infrastructure funding by responsible ministries, allowing to finance pool of infrastructures
- Internationally agreed long-term monitoring/observation programmes on national and EU level

## **Organisers**

### **EU-PolarNet – Connecting science with society**

EU-PolarNet is the world's largest consortium of expertise and infrastructure for polar research. Seventeen countries are represented by 22 of Europe's internationally-respected multi-disciplinary research institutions. From 2015-2020, EU-PolarNet will develop and deliver a strategic framework and mechanisms to prioritise science, advise the European Commission on polar issues, optimise the use of polar infrastructure, and broker new partnerships that will lead to the co-design of polar research projects that deliver tangible benefits for society. By adopting a higher degree of coordination of polar research and operations than has existed previously the consortium engages in closer cooperation with all relevant actors on an international level.

Website: [www.eu-polarnet.eu](http://www.eu-polarnet.eu)

### **European Polar Board**

The European Polar Board (EPB) is an independent organisation that focuses on major European strategic priorities in both the Arctic and the Antarctic regions. Current EPB membership includes research institutes, funding agencies, scientific academies and polar operators from across Europe.

The EPB envisions a Europe with a strong and cohesive polar research community and wherein decisions affecting or affected by the polar regions are informed by independent, accurate, and timely advice from the EPB.

The EPB has a mission to improve European coordination of Arctic and Antarctic research, by optimising the use of European polar research infrastructures. We promote multilateral collaborations between our Members and provide a single contact point for the global polar community. We advance the collective knowledge of polar issues, particularly in the context of European societal relevance.

Website: [www.europeanpolarboard.org](http://www.europeanpolarboard.org)

## **INTERACT**

INTERACT is an infrastructure project under the auspices of SCANNET, a circumpolar network of currently 79 terrestrial field bases in northern Europe, Russia, US, Canada, Greenland, Iceland, the Faroe Islands and Scotland as well as stations in northern alpine areas. INTERACT specifically seeks to build capacity for research and monitoring in the European Arctic and beyond, and is offering access to numerous research stations through the Transnational Access program. The project, which is funded by the EU, has a main objective to build capacity for identifying, understanding, predicting and responding to diverse environmental changes throughout the wide environmental and land-use envelopes of the Arctic. This is necessary because the Arctic is so vast and so sparsely populated that environmental observing capacity is limited compared to most other latitudes.

Website: <http://www.eu-interact.org/>