



Changing Arctic Ocean End of Programme Science Meeting

Tuesday 30th November 2021

**Zoom Online Meeting - details to be circulated to those who
have registered**



Programme

0900 - 0915: Welcome and Introductions:

*Professor David Thomas, Chair of the Programme Advisory Group, University of Helsinki
Henry Burgess, Head, NERC Arctic Office
BMBF - TBC*

SESSION 1: Nutrient cycles: CHAIR - Dr Ruth Airs, Plymouth Marine Laboratory

0915 - 0930: The Changing Arctic Ocean Seafloor (ChAOS): How changing sea ice conditions impact biological communities, biogeochemical processes and ecosystems

Dr Sian Henley (Edinburgh University), Dr Jasmin Godbold (Southampton University), Dr Terri Souster (formerly BAS, now University of Tromsø), Felipe Sales de Freitas (University of Bristol), and Christian Maerz (Leeds University).

0930 - 0945: How will changing freshwater export and terrestrial permafrost thaw influence the Arctic Ocean? (CACOON)

Dr Juri Palmtag, Northumbria University

0945 - 1000: Pathways and emissions of climate-relevant trace gases in a changing Arctic Ocean (PETRA)

Professor Dr Hermann Bange and Hanna Campen, GEOMAR Helmholtz Centre for Ocean Research Kiel

1000 - 1020: Q&A and Panel Discussion

1020 - 1030: BREAK

SESSION 2: Food webs: CHAIR - TBC

1030 - 1045: Arctic productivity in the seasonal ice zone (Arctic PRIZE)

Professor Finlo Cottier, Scottish Association for Marine Science, Dr Marie Porter, Scottish Association for Marine Science and Stacey Connan-McGinty, University of Strathclyde

1045 - 1100: Can we detect changes in Arctic ecosystems? (ARISE)

ARISE Team

1100 -1115: Ecosystem approach to harvesting in the Arctic: walking the tightrope between exploitation and conservation in the Barents Sea (MiMeMo)

Professor Mike Heath, University of Strathclyde

1115 - 1135: Q&A and Panel Discussion

1135 - 1145: BREAK

SESSION 3: Pollutants and Light: CHAIR - Dr Gaëlle Veyssièrè, British Antarctic Survey

1145 - 1200: Effects of ice stressors and pollutants on the Arctic marine cryosphere (EISPAC)

Professor Crispin Halsall, Lancaster University

1200 - 1215: Chronobiology of changing Arctic Sea Ecosystems (CHASE)

Dr Laura Peyton, Alfred Wegener Institute, Dr Jennifer Freer, British Antarctic Survey and Dr Kim Last, Scottish Association for Marine Science

1215 - 1230: Ecosystem functions controlled by sea ice and light in a changing Arctic (Eco-Light)

Dr Giulia Castellani, Alfred Wegener Institute

1230 - 1250: Q&A and Panel Discussion

1250 - 1400: LUNCH and POSTERS

SESSION 4: Part 1 - Primary Production: CHAIR - Anabel von Jackowski, GEOMAR

1400 - 1415: Diatom Autecological Responses with Changes To Ice Cover (Diatom-ARCTIC)

Dr Karley Campbell, The Arctic University of Norway

1415 - 1430: Understanding the links between pelagic microbial ecosystems and organic matter cycling in the changing Arctic (μ ARC)

Dr Birthe Zäncker, Marine Biological Association

SESSION 4: Part 2 - Secondary Production and above: CHAIR - Flo Atherden (University of Southampton)

1430 - 1445: Mechanistic understanding of the role of diatoms in the success of the Arctic Calanus complex and implications for a warmer Arctic (DIAPOD)

Dr Jennifer Freer, British Antarctic Survey

1445 - 1500: Potential benefits and risks of borealisation for fish stocks and ecosystems in a changing Arctic Ocean (Coldfish)

Dr Kim Vane, Alfred Wegener Institute and Dr Matthew Cobain (Newcastle University)

1500 -1515: Linking Oceanography and Multi-specific, spatially-Variable Interactions of seabirds and their prey in the Arctic (LOMVA)

Dr Anne Sophie Bonnet Lebrun, British Antarctic Survey

1515 - 1545: Q&A and Panel Discussion

1545 - 1630: BREAK and POSTERS

SESSION 5: Circulation: CHAIR - Dr Stefanie Rynders, National Oceanography Centre

1630 - 1645: Advective Pathways of nutrients and key Ecological substances in the ARctic (APEAR)

Dr Benjamin Rabe, Alfred Wegener Institute and Dr Yevgeny Aksenov, National Oceanography Centre

**1645 - 1700: Primary productivity driven by escalating Arctic nutrient fluxes?
(PEANUTS)**

Dr Kirstin Schulz, Alfred Wegener Institute

1700 -1730: Panel discussion and final thoughts

1730: CLOSE

Posters

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Poster sessions are divided into two sessions:

Session 1: 1250 - 1400 - Posters 1 to 12

Session 2: 1545 - 1630 - Posters 13 to 22

Each poster will be allocated a virtual breakout room. Once in the room, the presenter will be able to share their screen and discuss the poster with those in the virtual room. Attendees will be free to join any breakout room throughout the session by returning to the main room and choosing another room to enter. Format should be .pptx or .pdf files for sharing.

POSTER SESSION 1:

Poster 1: Arctic connections between sea ice, ocean dynamics and biogeochemistry in the UK Earth System Model (UK ESM1): present climate and future scenarios

Yevgeny Aksenov, National Oceanography Centre

Poster 2: Autonomous profiler reveals light intensity triggering the seasonal migration of Arctic zooplankton

Hauke Flores, Alfred Wegener Institute

Poster 3: Changing Arctic Ocean

Henry Burgess/Nicola Munro, NERC Arctic Office

Poster 4: Changing Arctic Ocean Data Management

Robyn Owen, British Oceanography Data Centre

Poster 5: Do microbial substrate regimes in the Fram Strait differ between summer and fall?

Anabel von Jackowski, GEOMAR Helmholtz Centre for Ocean Research Kiel

Poster 6: Variability of surface transport pathways and how they affect basin-wide connectivity and nutrients

Chris Wilson, National Oceanography Centre

Poster 7: High Exposure of Perfluoroalkyl Substances (PFASs) in Two Free-living Guillemot Species in the Subarctic and Arctic

Rui Shen, Helmholtz-Zentrum Hereon

Poster 8: High-resolution bathymetry models for the Lena Delta and Kolyma Gulf coastal zones

Jens Strauss, Alfred Wegener Institute

Poster 9: Light transmission and attenuation through varying Arctic sea-ice during late spring and summer

Gaëlle Veyssière, British Antarctic Survey

Poster 10: Lower trophic level ecosystem response to change in higher trophic level production: A modelling study in the North Atlantic/Arctic Ocean

Ute Daewel, Helmholtz-Zentrum Hereon

Poster 11: Modeling ecosystem responses to changes in under-ice light field

Giulia Castellani, Alfred Wegener Institute

Poster 12: Modelling impacts of riverine terrestrial organic matter on the lower trophic levels of an Arctic shelf ecosystem

Michael Bedington, Plymouth Marine Laboratory

POSTER SESSION 2:

Poster 13: Net heterotrophy in high arctic first-year and multi-year spring sea ice

Karley Campbell, The Arctic University of Norway

Poster 14: New Unified Arctic Ocean hydrography and biogeochemical data base: Identifying pathways of nutrients

Myriel Vredenburg, Alfred Wegener Institute

Poster 15: Nitrogen and stable isotope inventories in the Lena Delta

Tina Sanders, Helmholtz-Zentrum Hereon

Poster 16: Nitrous Oxide and Methane Distributions During the 2021 Synoptic Arctic Survey

Ian Brown, Plymouth Marine Laboratory

Poster 17: Quantifying seafloor dynamics of organic matter in the Barents Sea shelf sediments

Felipe Sales de Freitas, University of Bristol

Poster 18: Spatio-temporal variability of the primary and secondary production in the Barents Sea: from a 1D to a 3D modelling approach

Déborah Benkort, Helmholtz-Zentrum Hereon

Poster 19: Synthetic Shelf Sediment Maps for the Greenland Sea and Barents Sea

Jack Laverick, University of Strathclyde

Poster 20: The permafrost thaw fingerprint: particulate organic carbon from the Lena river to the Laptev Sea

Olga Ogneva, Alfred Wegener Institute

Poster 21: Emerging shift in shelf-deep ocean interactions in the changing Arctic Ocean

Yevgeny Aksenov, National Oceanography Centre

Poster 22: What factors affect the biosynthesis of sea ice algal lipids and trophic markers?: insights from a multi-biomarker approach.

Martin Graeve, Alfred Wegener Institute