



Durham
University



Arctic Office
NATURAL ENVIRONMENT
RESEARCH COUNCIL



UK ARCTIC SCIENCE CONFERENCE 2022



Durham University

11-13 April

Programme of Events

With financial and administrative support from the NERC Arctic Office

Please note: Conference programme may be subject to change

To continue protecting us all, in the events in this programme we would recommend that delegates wear a face covering, if not exempted from doing so, and where practicable.

General Information:

Registration desk for UK Arctic Science Conference: Teaching and Learning Centre, South Road, 2nd Floor Social Area (please follow the arrows!). Please help yourself to a name badge and a Conference pack.

UK Arctic Science Conference Poster sessions: Teaching and Learning Centre, 2nd Floor Social Area.

UK Arctic Science Conference Buffet Lunch (Tuesday) and Coffee/Tea Breaks: Teaching and Learning Centre 2nd Floor Social Area.

Please note: A buffet lunch is provided on Tuesday only. On Monday and Wednesday lunchtimes, the café (Zing) on the ground floor of the Teaching and Learning Centre will be open for purchase of food and hot and cold drinks between 10:00 and 15:00. Alternatively, a short walk across the main Road will bring you to the café in the Bill Bryson University Library entrance.

At the crossroads (turn left on leaving the Teaching and Learning Centre) is “Whitechurch” coffee house serving alcoholic and non-alcoholic beverages and a range of light food items. Outdoor seating (with blankets!) is available here too.

Associated Meeting:

UK Polar Network/APECS Successful Proposal Writing Workshop for Early Career Researchers: 10:00 a.m. to 12 noon, Monday 11th April, Teaching and Learning Centre and online.

You can register for attendance here: <https://forms.gle/aybDcaneJuGZrco27>

Morning refreshments will be provided for in-person participants at 11:00 a.m.

ROOM LOCATION: Room 117 on the 1st Floor of TLC.

For online participants: the Zoom link is here:

<https://durhamuniversity.zoom.us/j/95434290772?pwd=M1ZuUDJoL3IzSEF2OVYrZ0JSU3d2UT09>

Meeting ID: 954 3429 0772

Passcode: 790450

Please note: Conference programme may be subject to change

UK Arctic Science Conference Programme

All sessions will be held in Lecture Theatre 033, with access from both ground floor and 1st floor.

Online participants, please use the following Zoom link:

<https://durhamuniversity.zoom.us/j/95434290772?pwd=M1ZuUDJoL3lzSEF2OVYrZ0JSU3d2UT09>

Meeting ID: 954 3429 0772

Passcode: 790450

NB: The link remains the same for the whole conference

Monday 11th April:

Registration Desk open from 0930

12:20 Welcome and introductions. Prof. Bob Baxter, Prof. Phil Steinberg (*Durham University*), Henry Burgess (*NERC Arctic Office*).

Oral session 1: Water, land, ice and snow: part (i) Chair: Prof. Phil Steinberg (*Durham University*).

12:30 **Plenary 1:** Sublime Environing: Understanding Climate Change through Sea Ice. Prof. Nina Wormbs (*Professor of History of Technology, KTH Royal Institute of Technology, Stockholm, Sweden*).

13:20 Dynamic ice-sheet behaviour along the mid-Norwegian margin during the last glacial-deglacial cycle. Dr Christine Batchelor (*Newcastle University*).

13:40 Early 2018 summer sea-ice loss in the Barents Sea alters organic matter quality at the ocean seafloor. Dr Mark Stevenson (*Durham University*).

14:00 Investigating increased vessel traffic in ringed seal habitat in the Bering Strait region. Ms. Greta Ferloni (*Durham University*).

14:20 Physiographic controls on land-fast ice variability from 20 years of maximum extents across the Northwest Canadian Arctic. Ms. Eleanor Wratten (*Northumbria University*).

14:40 Silicon isotopes highlight the complex role of glaciated fjords in high-latitude marine nutrient cycling. Dr Katharine Hendry (*British Antarctic Survey/Bristol University*).

15:00 to 15:30 Break (refreshments provided) 2nd Floor Social Learning Area.

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Oral session 1 continued..... Chair: Ms. Saule Akhmetkaliyeva (*Manchester Metropolitan University*).

- 15:30 Seasonal variations in underwater acoustic properties of sea ice, from year-long measurements at Cambridge Bay, Canada. Dr Philippe Blondel (*University of Bath*).
- 15:50 Future mobility over lake ice in northern regions (**ONLINE PRESENTATION**). Iestyn Woolway (*Bangor University, Wales*).
- 16:10 Field observations of snow on sea ice for simulation of CryoSat-2 radar echoes. Dr Melody Sandells (*Northumbria University*).
- 16:30 Carbon Emissions under Arctic Snow. Dr Nick Rutter (*Northumbria University*).
- 16:50 Divergent assembly mechanisms of rare and abundant microbial communities in cryoconite holes on Arctic glaciers. (**ONLINE PRESENTATION/RECORDED**). Ms. Amy Bo Tinky Solman (*Queen Mary University of London and The Natural History Museum*).

Oral session 2: Innovation in Arctic Education and Public Outreach: Chair: Giuseppe Amatulli (*Durham University*).

- 17:10 Messages and Media: Arctic Science for a wider Audience. Dr Irene Quaille-Kersken (*Freelance journalist, www.iceblog.org, Eye on the Arctic, Polar Journal (https://polarjournal.ch)*).
- 17:30 Launching the Scotland Model Arctic Council. Dr Anthony Specca (*Polar Aspect*), Prof. Finlo Cottier (*Scottish Association for Marine Science*).
- 17:50 Introducing the UArctic Læra Institute for Circumpolar Education. Dr Anthony Specca (*Læra Institute for Circumpolar Education/Trent University, Canada*).

18:10-19:30 Icebreaker Reception and Poster Session, 2nd Floor Social Learning Area.

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Tuesday 12th April

REGISTRATION DESK OPEN FROM 08:00

08:30 TO 08:40 - Opening remarks and announcements

Oral Session 3: Arctic Terrestrial Biota – part (i) Chair: Prof. Bob Baxter (*Durham University*).

- 08:40 **Plenary 2:** Research co-development in Northwest Eurasia: Three decades of evolving norms. Prof. Bruce Forbes (*Arctic Centre, University of Lapland, Finland*).
- 09:30 Plant biodiversity dynamics across temporal and spatial scales in a warming tundra biome. Dr Mariana García Criado (*University of Edinburgh*).
- 09:50 Shrubification, not climate, is the main driver of tundra functional diversity across space and time. Mr. Joseph Everest (*University of Edinburgh*).
- 10:10 Climate Change and Arctic Browning: Assessing the role of extreme weather events. Ms. Murk. K. Memon (*Sheffield University*).

10:30 to 11:00 Break (refreshments provided) 2nd Floor Social Learning Area.

Oral Session 3: Arctic Terrestrial Biota – part (ii) Chair: Prof. Gareth Phoenix (*Sheffield University*).

- 11:00 Phenological differences in vegetation near Noril'sk, north-central Siberia, in the context of airborne pollution and climate change. Dr Olga Tutubalina (*Scott Polar Research Institute, University of Cambridge*).
- 11:20 Knowns and unknowns in Arctic plant phenology responses to warming. Dr Isla Myers-Smith (*University of Edinburgh*).
- 11:40 Identifying risk species to Scandinavia – a horizon scanning study. Ms. Katy Ivison (*Durham University*).
- 12:00 Implications of experienced winter temperatures and duration of snow cover for the structure of High Arctic microarthropod communities. Prof. Peter Convey (*British Antarctic Survey*).

12:20 to 13:20 Buffet Lunch – 2nd Floor Social Learning Area.

- 13:20 **Plenary 3:** Governance and indigenous interests in relation to terrestrial and aquatic resource use in Northern Norway. Prof. Ivar Bjørklund (*Tromsø Museum, University of Tromsø*). **Chair: Prof. Bruce Forbes (Arctic Centre, Rovaniemi, Finland).**

continued.....

Oral session 4: Arctic terrestrial permafrost environments. Chair: Prof. Julian Murton (*Sussex University*).

- 14:10 Changes in microbial diversity and ecology in Arctic freshwater biofilms across a broad latitudinal gradient (56-83 °N). Mr. Patrick Hooper (*Natural History Museum, London*).

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14:30 **Replacement talk to be announced on the day:** Development of a lab facility to investigate priming and new organic matter formation in thawed permafrost soils. Dr Nina Friggens (*Exeter University*).

14:50 Modelling the effect of sub-grid processes on methane release and permafrost thaw in the JULES land surface model. Mr. Noah Smith (*Exeter University*).

15:10 to 15:40 Break (refreshments provided) 2nd Floor Social Learning Area.

Oral Session 5: Responsible and inclusive Arctic research. Chairs: Pilvi Muschitiello and Beatrix Schlarb-Ridley (*British Antarctic Survey*).

[NB – SEE AMMENDED PROGRAMME SHEET FOR THIS SESSION.....](#)

15:40 Research do's and don'ts from the perspective of indigenous and non-Indigenous individuals who carry out Arctic research. (*ONLINE PRESENTATION*). Dr. Jessica M. Shadian (*University of Toronto, Canada*).and Madeleine Redfern (*Executive Director of Arctic360's Northern Branch, Iqaluit, Nunavut*). **To be confirmed.**

16:20 EU PolarNet project & Arctic research cooperation (*ONLINE PRESENTATION*). Annette Scheepstra (*EU PolarNet project, Arctic Centre - University of Groningen, Netherlands*).

16:40 Why having an inclusive Polar science community matters to the UK (*ONLINE PRESENTATION*). Jane Rumble (*UK Foreign, Commonwealth and Development Office*).

17:00 A case study: A developmental evaluation of participatory scenario planning for policy making in an Indigenous context (*ONLINE AND IN PERSON PRESENTATION*). Mrs. Melanie Flynn (*University of Leeds*) and Ms Lynn Blackwood (*Food security coordinator at Nunatsiavut Government*).

17:20 Celebrating the Success of Polar Pride Day and importance of representation. Dr Victoria Dutch (*Northumbria University*).

17:30 Intersectionality and socioeconomic inclusion. Prof. Martin Siegert (*Imperial College London*).

17:40 Panel: Responsible and inclusive Arctic research (*ONLINE AND IN PERSON PARTICIPATION*). **Panellists to be confirmed.**

18:10 End of session.

19:00 Conference Dinner (Cash bar) – Hatfield College.

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Wednesday 13th April

08:30 **Plenary 4:** Who decides the future of the Central Arctic Ocean? Prof. Timo Koivurova (*Arctic Centre, University of Lapland, Finland*). **Chair: Henry Burgess (NERC Arctic Office).**

Oral session 6: Arctic Science, the UK and Svalbard – part (i). Chair: Eleanor Wratten (Northumbria University).

09:20 NERC Arctic Research Station (**ONLINE PRESENTATION**). Dr Iain Rudkin (*Deputy Station Manager, British Antarctic Survey*).

09:40 Svalbard Integrated Arctic Earth Observing System: opportunities for involvement from the UK. Henry Burgess (*NERC Arctic Office*).

10:00 Potential toxic elements in soils from Petunia Bay, Spitsbergen, Arctic. Dr Juliana Souza-Kasprzyk (*Adam Mickiewicz University, Poznań, Poland*).

10:20 to 10:50 – Break (refreshments provided) 2nd Floor Social Learning Area.

Oral session 6: Arctic Science, the UK and Svalbard – part (ii). Chair: Ms. Margot Debyser (Edinburgh University).

10:50 Study of an Arctic cyclone-induced bromine explosion event in Ny-Ålesund, Svalbard. Dr Xin Yang (*British Antarctic Survey*).

11:10 Interannual variability of water mass composition reflected in summer hydrography and nutrient contents near Svalbard. Dr Ilona Goszczko (*Physical Oceanography Department/ IO PAN, Sopot, Poland*).

11:30 Building empowering Indigenous research partnerships: Canada-Inuit Nunangat-United Kingdom Arctic Research Programme 2021-25. Henry Burgess (*NERC Arctic Office*).

Oral Session 7: Northern Lights: Measuring and Using Light in the Arctic. Chair: Dr David McKee (Strathclyde University)

11:50 Midnight Sun to Polar Night: Modelling seasonal light in the Barents Sea (**ONLINE PRESENTATION**). Ms. Stacey Connan-McGinty (*University of Strathclyde*).

12:10 Diel behavior shapes the underwater light field of zooplankton in an Arctic fjord (**ONLINE PRESENTATION**). Dr Kim Last (*Scottish Association for Marine Science*).

12:30 Arctic zooplankton and the lightscape of fear: A marine zooplankton community vertically structured by light across diel to interannual timescales. Dr Laura Hobbs (*Scottish Association for Marine Science and the University of Strathclyde*).

12:50 Investigating the photophysiology of supraglacial microalgae. Ms. Emily Broadwell (*University of Bristol*).

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13:10 Detecting zooplankton swarms from space. Ms. Cait McCarry (*University of Strathclyde*).

13:30 Concluding Remarks & End of Conference. Prof. Bob Baxter, Prof. Phil Steinberg (*Durham University*), Henry Burgess (*NERC Arctic Office*).

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