



## UK Arctic Science Conference

hosted at the British Antarctic Survey, Cambridge with Administrative and financial support from the NERC Arctic Office

### Day 1, September 11th

Registration open 12:30

#### 13:00 Welcome

Jane Francis, Director of the British Antarctic Survey

13:15 Arctic research community & collaboration - *Chaired by Henry Burgess*

#### 13:15 - 13:35 Permafrost Refreeze: The Reindeer Factor (*film*)

Kaisu Koski, Lab4Living, Sheffield Hallam University

#### 13:35 - 13:45 Exploring resilience through the lenses of Arctic narratives: case study of Tiksi & Bykovsky

Natalia Doloisio, Utrecht University

#### 13:45 - 13:55 Transforming research approaches to highlight the urgency of Arctic change: recommendations from the AGORA workshop to promote community inclusion and scientific communication

Mary Edwards, School of Geography and Environmental Science, University of Southampton

#### 13:55 - 14:10 UK's Arctic Policy

Jane Rumble, Foreign, Commonwealth and Development Office

#### 14:10 - 14:20 RRS Sir David Attenborough science capability and future look

Sophie Fielding, British Antarctic Survey

#### 14:10 - 14:25 IC3 - A ten year funded project on ice sheet loss and global carbon cycles

Terri Souster, UiT

Break 14:30 - 15:00

15:00 Open Data: Sharing and reusing data to advance Arctic Science - *Chaired by Helen Peat*

**15:00 - 15:10 Open Arctic Science: how the UK Polar Data Centre supports Open Science and FAIR data principles**

Sarah Manthorpe, British Antarctic Survey

**15:10 - 15:20 Historical British Arctic Whaling Activities: Analysing their voyages and their catch (recording)**

Ryan Charles,

**15:20 - 15:35 Spatiotemporal AI and Digital Twinning for the Polar Environment**

Scott Hosking, British Antarctic Survey & The Alan Turing Institute

Break 15:40 - 16:10

16:10 Remote Sensing - *Chaired by Andrew Fleming & Alvaro Arenas Pingarron*

**16:10 - 16:20 Microclimatic winter conditions shape soil erosion and vegetation patterns in sub-Arctic tundra**

Georg Kodl, School of Geography and Sustainable Development, University of St Andrews

**16:20 - 16:30 Quantifying and characterising geomorphic signatures of active layer detachment slides in the Brooks Range, Alaska**

Charlotte Pearson, University of Hertfordshire

**16:30 - 16:40 Location, timing and trajectory of dust emissions from ice-free Greenland (2016-2021)**

Joanna Bullard, Loughborough University

**16:40 - 16:50 Multiscale remote sensing for understanding dust originating in the Arctic**

Sam Poxon, Loughborough University

**16:50-17:00 - Comfort break**

**17:00 - 17:10 Microstructure of Snow on Sea Ice and Simulation of Radar Altimetry**

Melody Sandells, Northumbria University

**17:10 - 17:20 Weather and glacial controls on fjord ice cover in Nuup Kangerlua (Nuuk Fjord), SW Greenland: Environmental, social and industry implications**

James Lea, University of Liverpool

**17:20 - 17:30 Improved Arctic shipping data and methods based on POLARIS show where ships of different ice strength have been in areas of heightened risk from sea ice, 2015-2022,**

Alison Cook, Scottish Association for Marine Science

## Day 2, September 12th

### Registration open 08:30

09:00 New findings and interconnections in sciences -1 - Chaired by Joanna Zanker

#### **09:10 - 09:20 EISCAT-3D: a new perspective on the polar upper atmosphere**

Mervyn Freeman, British Antarctic Survey

#### **09:20 - 09:30 Multi-Physics Ensemble Modelling of Arctic Tundra Snowpack Properties**

Georgina Woolley, Northumbria

#### **09:30 - 09:40 Microbial community assembly in snow, ice and cryoconite habitats on a High Arctic glacier**

Amy Bo Tinky Solman, Queen Mary University of London & the Natural History Museum

#### **09:40 - 09:50 Modelling and measurement of carbon emissions under Arctic snow**

Nick Rutter, Northumbria University

#### **09:50 - 10:00 Title tbc**

Ben Redmond Roche, Department of Earth Sciences Royal Holloway

#### **10:00 - 10:10 Getting to the core of environmental change: a multi-proxy study of three high arctic lacustrine sediment records spanning ~3,300 years**

Amy Gray, Loughborough University

Coffee and posters 10:15 - 11:00

11:00 New findings and interconnections in sciences -2 - Chaired by Joanna Zanker

#### **11:10 - 11:20 Arctic and sub-Arctic marine sediment carbon stocks; a meta-analysis**

Beth Langley, University of Glasgow

#### **11:20 - 11:30 Evaluating impacts of possible prey loss due to reduced sea ice on Bowhead whales in the Canadian Arctic**

Hayley McLennan, University of St Andrews

#### **11:30 - 11:40 Walrus from Space: Validating satellite imagery counts using RPAS counts**

Jaume Forcada, British Antarctic Survey

#### **11:40 - 11:50 The importance of ocean meltwater layers on biogeochemical processes in the Central Arctic**

Alison L Webb, University of York

#### **11:50 - 12:00 Silicon isotopes reveal the impact of fjords processes on the transport of reactive silica from glaciers to coastal regions**

Tong Wang, School of Earth Sciences, University of Bristol

#### **12:00 - 12:10 Intra- and interannual variability of the Atlantic Water inflow to the Arctic Ocean**

Angelika Renner, Institute of Marine Research, Tromsø, Norway

#### **12:10 - 12:30 PechaKucha-style poster presentations**

Lunch and posters 12:30 - 13:30

13:30 New findings and interconnections in sciences -3 - Chaired by Ed Gryspeerdt

**13:30 - 13:40 Degradation and composition of organic carbon in the sediment flocculation layer on the East Siberian Arctic Shelf**

Kirsi Keskitalo, Northumbria University; Vrije Universiteit Amsterdam

**13:40 - 13:50 Holocene methane emissions from high latitude lakes in Alaska**

Maarten van Hardenbroek, Newcastle University

**13:50 - 14:00 The case of Arctic lichens. How plastic is the lichen symbiosis in the face of warming?**

Jiri Subrt, University of Edinburgh

**14:00 - 14:10 The Polar Summer: Does microclimate set the clock for above- and below-ground tundra phenology?**

Elise Gallois, University of Edinburgh

**14:10 - 14:20 Dendrochronology and remote sensing for the identification and understanding of socio-ecological impacts of beaver range expansion into Inuit Nunangat**

Georgia Melodie Hole, Anglia Ruskin University

**14:20 - 14:30 Priorities for research on beavers in the Arctic: reflecting on research processes**

Helen Wheeler, Anglia Ruskin University

**14:30 - 14:40 Pododermatitis in Captive Polar Bears (*Ursus maritimus*): investigating patterns and signalling factors**

Daniela Eberl, Nottingham Trent University - School of Animal, Rural and Environmental Sciences

**14:40 - 14:50 PechaKucha-style poster presentations**

Coffee and posters 15:00 - 16:00

16:00 International cooperation and partnerships & Inclusion - *Chaired by Henry Burgess & Millicent Harding and Pilvi Muschitiello*

**International cooperation and partnerships: Arctic governance**

**16:00 - 16:10 The impact of the war in Ukraine on the security in the Arctic - the future of northern energy projects**

Dr. Slawomir Gromadzki, Department of Internal Security Ignacy Moscicki's University of Applied Sciences in Ciechanów, Poland

**16:10 - 16:20 Arctic Governance: a Treaty-Based Regime**

Elena Knyazeva, University College Cork (Ireland)

**16:20 - 16:30 Walking on Thin Ice: Dealing with Rogue Weather Balloons in the Arctic**

Kelsey Frazier, Ted Stevens Center for Arctic Security Studies

**16:30-16:40 Overview of the Arctic Council and its Working Groups**

Ms Reagan Aylmer, Advisor to the Arctic Council Secretariat, Arctic Council Secretariat

**Inclusion**

**16:45 - 16:52 Beyond physical safety: Psycho-social safety and mental wellbeing**

Steve Marshall, British Antarctic Survey

**16:52 - 16:59 Understanding & Supporting wellbeing in Polar exploration: A case study of BAS expedition personnel**

Paul Burgum, Durham University

**16:59 - 17:06 Breaking the Ice: Access Polar and the need for Disabled Inclusion and Representation in Polar Research**

Charlotte Cockram, Accessibility in Polar Research

**17:15-17:45 Panel discussion**

19:00 Conference dinner at Magdalene College

## Day 3, September 13th

**Registration open 08:30**

09:00 New technologies for Polar Science - *Chaired by Julius Rix*

**09:00 - 09:15 Tracing Glacial Meltwater From the Greenland Ice Sheet to the Ocean Using Gliders**

Kate Hendry, British Antarctic Survey

**09:15 - 09:30 Simulation of acoustic reflection and scattering from Arctic ice observed by an upward looking sonar**

Nicholas P Chotiros, Applied Research Laboratories, The University of Texas in Austin

**09:30 - 09:45 IceNet v2: Towards sharp sea ice forecasts in the Arctic and Southern Oceans**

Andrew McDonald, University of Cambridge

**09:45 - 10:00 Using AI sea ice forecasts for Arctic conservation planning**

Ellie Bowler, British Antarctic Survey

**10:00 - 10:15 Improving Walrus Monitoring with Infrared CubeSat Technology**

Carlo Convevole, Cranfield University

Coffee and posters 10:30 - 10:45

10:45 Net Zero & sustainability - *Chaired by Zelna Weich & Beatrix Schlarb-Ridley*

**10:45 - 10:55 Project-based carbon accounting**

Kris Nicholls, British Antarctic Survey

**10:55 - 11:05 Making best use of historical samples**

Jade Boughton, British Antarctic Survey

**11:05 - 11:15 Future Marine Research Infrastructure update**

Leigh Storey, NERC

11:15 - 11:45 Panel discussion, chaired by Clara Manno

11:45 International cooperation and partnerships & Education - *Chaired by Henry Burgess & Anthony Speca*

**International cooperation and partnerships: Indigenous co-collaboration**

**11:45 - 11:55 Working with Indigenous communities on environmental change in the western Canadian Arctic**

Callum Pearce, Anglia Ruskin University

**11:55 - 12:05 Co-development of a new model for contaminant monitoring to support Indigenous-led research and strategic decision-making,**

Louise Mercer, Northumbria University

**12:05-12:15 Implementing the Inuit Strategy on Research – the Canada-Inuit Nunangat-United Kingdom Arctic research Programme 2021-2025**

Henry Burgess, NERC Arctic Office

**Education**

**12:15 - 12:30 Teaching and Learning through Place, People and Practices: A Global Intersection of Righting Relations in Education Through Story, Anita Lafferty, University of Alberta**

**12:30 - 12:45 The Læra Institute, Anthony Speca**

12:45 Closing remarks from organisers