

# ESA Polar Science Collocation Meeting

## Posters

67 poster entries grouped by Theme

## Antarctica and the Southern Ocean

12 entries

### **Antarctic Ice Shelf Coastline delineation by combining Sentinel-1 and CryoSat-2 data using Deep Learning**

**No.: 1   Name:** Hamzeh Issa  
**Organization:** S&t Norway

### **AI4IS - Predicting calving events from Antarctic Ice Shelves using Machine Learning**

**No.: 2   Name:** Jacob Alexander Hay  
**Organization:** S&T Norway

### **Towards a Comprehensive Low-Latency Polar Observing System for Ice Velocity, Solid Ice Discharge and IOM Mass Balance**

**No.: 3   Name:** Dr. Jan Wuite  
**Organization:** ENVEO

### **Meltbelt: Turning the Tide on Antarctic Ice Loss**

**No.: 4   Name:** Christian Wild  
**Organization:** University of Innsbruck

### **High-Resolution TanDEM-X DEM Time Series Reveal Sustained Glacier Thinning in the Former Wordie Ice Shelf Basin (2014–2025)**

**No.: 5   Name:** M.sc. Antonia Warnstedt  
**Organization:** FAU Erlangen-Nuremberg

### **Resistance of Antarctic extremophilic lichens to freeze-thaw cycles, photoinhibition, and drought stress. Photosynthetic study of photosystem II functioning**

**No.: 6   Name:** Josef Hájek  
**Organization:** Masaryk University, Faculty of Science

### **Quantifying Grounding Line Migration Across Different Time Scales**

**No.: 7   Name:** Dr. Dana Floricioiu  
**Organization:** German Aerospace Center (DLR)

### **Integrated Satellite and In Situ Investigation of Southern Ocean Mesoscale Eddies within the ACCESS Project**

**No.:** 8   **Name:** Roberta Saul Porrino  
**Organization:** Cà Foscari University of Venice

### **The role of deep ocean warming in driving Antarctic sea ice loss**

**No.:** 9   **Name:** Hannah Dawson  
**Organization:** University Of Tasmania

### **An improved Basal Melt Rate Dataset for Understanding the Key Drivers of Ice Sheet Loss in Antarctica**

**No.:** 10   **Name:** John Palmer  
**Organization:** Earthwave

### **Remote sensing of Antarctic sea ice drift: tracking sea ice from decadal to sub-daily scales**

**No.:** 11   **Name:** Mr Thomas Lavergne  
**Organization:** Norwegian Meteorological Institute

### **Imaging the heterogeneity in the crust, lithosphere and geothermal heat flow beneath Antarctic subglacial lake districts**

**No.:** 12   **Name:** Director Fausto Ferraccioli  
**Organization:** National Institute Of Oceanography And Applied Geophysics

## **Glaciers**

7 entries

### **Examining the differences between glacier elevation change estimated from radar altimetry and DEM differencing.**

**No.:** 13   **Name:** Anne Guyez  
**Organization:** Cnrs

### **Elevation Change of Icelandic Glaciers from TanDEM-X DEM Differencing for the GlAMBIE Intercomparison Exercise**

**No.:** 14   **Name:** Mr. Lukas Krieger  
**Organization:** Deutsches Zentrum für Luft- und Raumfahrt

### **New Austrian glacier inventory shows 31% area loss in two decades**

**No.:** 15   **Name:** Lea Hartl  
**Organization:** Austrian Academy Of Sciences

### **Cloud-Based Multi-Temporal Mapping of Glacier Snow Cover and Snow Line Altitude from Optical Satellite Data**

**No.:** 16   **Name:** Mr Christian Sommer

**Organization:** Friedrich-Alexander-University of Erlangen-Nuremberg

### **Radar altimetry beyond ice sheets: opportunities and remaining challenges for glacier monitoring**

**No.:** 17   **Name:** Ms Livia Jakob

**Organization:** Earthwave

### **Accelerating Glacier Mass Loss in the Southern Andes revealed by Interferometric Radar**

**No.:** 18   **Name:** Mr Christian Sommer

**Organization:** Friedrich-Alexander-University of Erlangen-Nuremberg

### **Combining GRACE/GRACE-FO and ESA CCI Permafrost to link Arctic glacier and permafrost change**

**No.:** 19   **Name:** Dr. Ingo Sasgen

**Organization:** Alfred Wegener Institute

## **Greenland and the Arctic**

13 entries

### **An Updated Year-Round CryoSat-2 Sea Ice Thickness Dataset for the Arctic Ocean: 2010-2024, and its Applications in the ERC SI/3D Project**

**No.:** 20   **Name:** Jack Landy

**Organization:** UiT The Arctic University of Norway

### **Cyclone-Induced Sea Ice Deformation and Ridging Revealed by Satellite Synergy of SAR and Altimetry**

**No.:** 21   **Name:** Dr. Shiming Xu

**Organization:** Tsinghua University

### **Classifying sea ice type with Machine Learning in the SAGE (Sea Ice Age and Drift) project.**

**No.:** 22   **Name:** Jacob Alexander Hay

**Organization:** S&T Norway

### **The role of solid earth properties for the onset of Greenland ice streams**

**No.:** 23   **Name:** Prof Jörg Ebbing

**Organization:** Kiel University

**The Arctic Sea Ice and Land Parameter Correlations (ASILaC) dataset - similarities in sea ice area and permafrost, vegetation and snow water equivalent variability**

**No.:** 24   **Name:** Dr Annett Bartsch

**Organization:** b.geos GmbH

**Assessment of snow depth products on Arctic summer sea ice**

**No.:** 25   **Name:** Anne Braakmann-Folgmann

**Organization:** UiT, The Arctic University Of Norway

**Greenland-wide Mapping of Subglacial Discharge Plumes in Fjords Using Remote Sensing and Machine Learning**

**No.:** 26   **Name:** Anna Kirk Deichmann

**Organization:** Geological Survey of Denmark and Greenland (GEUS)

**Svalbard Integrated Arctic Earth Observing System**

**No.:** 27   **Name:** Ashley Morris

**Organization:** Svalbard Integrated Arctic Earth Observing System (SIOS)

**Sustained long-term monitoring of ocean and sea-ice transports through the Arctic Gateways**

**No.:** 28   **Name:** Laura de Steur

**Organization:** Norwegian Polar Institute

**Understanding spatial and temporal salinity variability in the gateway to the Arctic Ocean by comparing new observations, satellite products and reanalysis outputs**

**No.:** 29   **Name:** Ilona Goszczko

**Organization:** Institute Of Oceanology, PAN

**Exploring Calving and Dynamic Changes on a Floating Ice Shelf in Northern Greenland**

**No.:** 30   **Name:** Molly Hammond

**Organization:** University Of Leeds

**A Greenland Ice Sheet drainage basin data set combining supraglacial and subglacial routing**

**No.:** 31   **Name:** Prof Nanna Karlsson

**Organization:** Geus

**Permafrost Thaw and Emerging Infections Disease Threats in the Arctic : Implications for Climate and Public Health Surveillance.**

**No.:** 32   **Name:** Dimitra Sideri

**Organization:** Medical Student

## Methodological Advances (New methods and products)

24 entries

### **SBAS-InSAR Based Investigation of Earthquake-Induced Deformation in Rock Glacier and Permafrost Terrain**

**No.:** 33 **Name:** Ajay Kumar

**Organization:** Indian Institute Of Technology Bombay

### **Synergistic use of altimeter backscatter to improve radiometer thin sea ice thickness retrieval**

**No.:** 34 **Name:** Mr. Ferran Hernández-Macià

**Organization:** Institute of Marine Sciences (ICM-CSIC) & isardSAT

### **Towards automated and dynamic compilation of Antarctic gravity and magnetic data with equivalent source inversion**

**No.:** 35 **Name:** Matthew Tankersley

**Organization:** Kiel University

### **Permafrost Thaw in the Northern Hemisphere and Antarctica documented through ESA CCI+ Permafrost climate data records**

**No.:** 36 **Name:** Chiara Gruber

**Organization:** b.geos

### **CLEV2ER: Development of the CRISTAL Level-2 Prototype Processor for Land Ice**

**No.:** 37 **Name:** Karla Boxall

**Organization:** Lancaster University

### **The potential of Sentinel-1 InSAR for permafrost monitoring across the Arctic**

**No.:** 38 **Name:** Dr Annett Bartsch

**Organization:** b.geos GmbH

### **LiMOSAT: A system for deriving Lagrangian sea-ice motion from satellite data**

**No.:** 39 **Name:** Sean Chua

**Organization:** Nersc

### **Antarctic Regolith as a Lunar Regolith Simulant for Space Agriculture: Effects of Native Soil Bacteria on Model Plants Growth, Photosynthesis, Biomass and Element Allocation**

**No.:** 40 **Name:** Milos Bartak

**Organization:** Masaryk University

### **A NOVEL METHOD FOR IDENTIFYING HIGH-SALINITY WATER IN PERMAFROST THAW LAKES LINKED TO BEDFAST ICE MAPPING**

**No.:** 41   **Name:** Dr. Helena Bergstedt  
**Organization:** B.geos GmbH

### **Observing Ice Sheet Melt and Refreeze Extent using Active Microwave Satellite Data**

**No.:** 42   **Name:** Beat Haslinger  
**Organization:** Enveo It GmbH

### **Mapping Arctic Sea Ice Freeboard Using High-Resolution GNSS Reflectometry**

**No.:** 43   **Name:** Dr. Felix Müller  
**Organization:** Technical University of Munich (DGFI-TUM)

### **ESA-FMI Arctic-Boreal Earth Science, Calibration and Validation Supersite**

**No.:** 44   **Name:** Dr. Anna Kontu  
**Organization:** Finnish Meteorological Institute

### **A Deep Learning Approach to estimating Antarctic Supraglacial Lake Depths**

**No.:** 45   **Name:** Frank Donachie  
**Organization:** Lancaster University

### **Multifrequency ice-velocity measurements of Pine Island glacier, Antarctica**

**No.:** 46   **Name:** Dr John Peter Merryman Boncori  
**Organization:** Technical University Of Denmark

### **Preparing for future Sentinels with focus on snow**

**No.:** 47   **Name:** Dr. Juha Lemmetyinen  
**Organization:** Finnish Meteorological Institute

### **CryoTEMPO-EOLIS Baseline 3: Latest advancements and looking ahead to CRISTAL**

**No.:** 48   **Name:** Miss Carolyn Michael  
**Organization:** Earthwave

### **Multi-sensor satellite-based snow monitoring in mountain and Arctic regions**

**No.:** 49   **Name:** Maria Heinrich  
**Organization:** Enveo It GmbH

### **New Opportunities for Antarctic Science with ESA's BIOMASS Mission**

**No.:** 50   **Name:** Georg Fischer  
**Organization:** German Aerospace Center (DLR)

### **Englacial temperature monitoring from microwave radiometric observations: from single to multifrequencies**

**No.:** 51   **Name:** Marion Leduc-Leballeur  
**Organization:** IFAC-CNR

### **Scalable Ice Velocity Analysis Using Modern, Cloud-Optimised Data Formats**

**No.:** 52   **Name:** Ross Slater  
**Organization:** University Of Leeds

### **High resolution Antarctic sea ice thickness and snow depth from merged multi- mission altimetry**

**No.:** 53   **Name:** Marion Bocquet  
**Organization:** Norce Research As

### **Antarctic Sea Ice Thickness from 1995 to 2025 in Sea Ice Climate Change Initiative (CCI+) Phase 2.**

**No.:** 54   **Name:** Marion Bocquet  
**Organization:** Norce Research As

### **Cryo-TEMPO: Delivering CryoSat-2 radar altimetry thematic products over Land Ice, Sea Ice and the Polar Oceans**

**No.:** 55   **Name:** Prof. Malcolm McMillan  
**Organization:** CPOM Lancaster University

### **Automatic detection of glacier surges from ICESat-2 altimetry in Svalbard**

**No.:** 56   **Name:** Désirée Treichler  
**Organization:** University Of Oslo

## **Methodological Synergies (Earth Observation, In-situ, modelling, AI, Digital Twins)**

11 entries

### **Upscaling Antarctic snow over sea ice through transfer learning**

**No.:** 57   **Name:** Dr. Lu Zhou  
**Organization:** Utrecht University

### **Constraining Surface Energy Fluxes with Satellite Observations of the Cryosphere**

**No.:** 58   **Name:** Susanna Winkelbauer  
**Organization:** University Of Vienna

### **Deep-Learning Assisted Quantification of Monthly Frontal Ablation Across 147 Svalbard Tidewater Glaciers from 2015 to 202**

**No.:** 59   **Name:** Thorsten Seehaus  
**Organization:** Friedrich-Alexander-Universität

### **Freshwater ice cryospheric component. From in situ observations to long-term satellite monitoring**

**No.:** 60   **Name:** Dr. Elena Zakharova  
**Organization:** EOLA

### **Assimilating Sentinel-1 and ICESat-2 Grounding Lines to Resolve Tidal Migration Patterns**

**No.:** 61   **Name:** Sindhu Ramanath  
**Organization:** Deutsches Zentrum fuer Luft-und Raumfahrt

### **Digital Glacier Twins for the European Alps: Seamlessly Linking Present Observations and Future Projections**

**No.:** 62   **Name:** Johannes Fürst  
**Organization:** Fau Erlangen-nürnberg

### **Reconstructing Tundra Lake Change from Historical Maps and Satellite Records**

**No.:** 63   **Name:** Ivan Sudakow  
**Organization:** The Open University, UK

### **TanDEM-X: Contribution to Cryospheric Applications**

**No.:** 64   **Name:** Prof. Irena Hajsek  
**Organization:** ETH / DLR

### **Real Time Prediction of September Arctic Sea Ice from Regional Satellite Records**

**No.:** 65   **Name:** Ivan Sudakow  
**Organization:** The Open University, UK

### **The Arctic Methane and Permafrost Challenge Network**

**No.:** 66   **Name:** Dr Annett Bartsch  
**Organization:** b.geos GmbH



## **Large-scale monitoring of supraglacial hydrology across Greenland and Antarctica: optical and emerging SAR approaches**

**No.:** 67   **Name:** Amber Leeson

**Organization:** Lancaster University