



Interdisciplinary Polar Studies
Modular Meeting:
Arctic Amplification-Glaciers-Environment

INTERDISCIPLINARY POLAR STUDIES (IPS-2023) MODULAR MEETING: ARCTIC AMPLIFICATION – GLACIERS – ENVIRONMENT

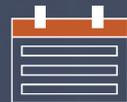


LONGYEARBYEN

ISFJORDEN

HORNSUND

scientific conference
and field workshops



30 AUGUST - 4 SEPTEMBER 2023



CONTENTS

- 3 Programme**
- 9 Local Workshop Map: Billefjorden & Adventdalen**
- 10 Field Workshop Map: Hornsund & Isfjorden**
- 11 City Map**
- 12 Organizing Committee**
- 13 Scientific Committee**
- 14 Keynote Speakers**
- 15 Panelists**
- 16 Field Safety**
- 17 Suggested packing list**
- 18 Useful links**

30th August

The University Centre in Svalbard (UNIS), Møysalen

8.30 - 9.00 **Registration**

9.00 - 9.20 **Opening and Welcome**

9.20 - 10.50 **Amplification of Arctic warming (part I)**

Invited Lecture: Agnieszka Beszczyńska-Moeller "*Changes of ocean climate and feedbacks in the warming Arctic*" (30 min)

Talk: Carolina Gabarró "*Salinity and Freshwater distribution in Barents Sea and Fram Strait*" (20 min)

Talk: Josefa Verdugo "*Freshwater discharge control seawater pCO₂ during the melt onset in fjord waters of Young Sound, Northeast Greenland*" (20 min)

Talk: Pavani Vithana Madugeta Vidanamesthrige "*Inter-annual Variability of Sound Speed Conditions in Hornsund Fjord, Svalbard*" (20 min)

10.50 - 11.20 **Coffee & Tea Break**

11.20 - 13.00 **Amplification of Arctic warming (part II)**

Invited Lecture: Ewa Łupikasza "*Probabilities of Snowfall and Rainfall in the Atlantic Arctic under the Current Climate Warming*" (30 min)

Talk: Malte Müller "*Extreme precipitation over Svalbard and its relation to the recent decline of sea-ice in the Greenland Sea*" (20 min)

Talk: Nicole Hanselmann "*Temporal and spatial variability of evaporation in Hornsund area (SW Spitsbergen)*" (20 min)

Invited Lecture: Gijsbert D. Breedveld "*Long-range transport or local sources of contamination potential impact and solutions*" (30 min)

13.00 - 14.00 **Lunch Break**

14.00 - 15.30 **Amplification of Arctic warming (part III)**

Invited Lecture: Josef Elster "*Greening of the Arctic - Invasive Vaucheria aff. compacta (Xanthopyceae) in Adventfjorden tidal flat, Svalbard*" (30 min)

Talk: Aleksandra Andrzejowska "*Effects of an active volcano on bound water behavior in Antarctic lichen Caloplaca regalis*" (20 min)

Talk: Mohit Phulara "*Dendroecological response of Salix polaris from the two contrasting sites of Central Spitsbergen, Svalbard*" (20 min)

Invited Lecture: Mateusz Strzelecki "*Svalbard coastal change - known knowns, known unknowns and unknown unknowns*" (30 min)

15.30 - 16.00 **Coffee & Tea Break**

16.00 - 16.20 **Field security instruction**

16.20 - 17.20 **Introduction to posters**
(12 x 5 min)

17.20 - 18.30 **Poster session***

18.30 - 20.30 **Icebreaker**
UNIS, Helenstua (canteen)

* We recommend size ISO A0 (84.1 cm x 118.9 cm) and portrait orientation.

31th August

The University Centre in Svalbard (UNIS), Møysalen

9.00 - 10.30 Shrinking glaciers and thawing permafrost – Speedup of landscape and seascape changes (part I)

Invited Lecture: Jon Ove Hagen "Glacier changes in Svalbard in a global context " (30 min)

Talk: Pénélope Gervais "Spatiotemporal Changes of the Supraglacial Hydrology on Ellesmere Island, Canadian High Arctic" (20 min)

Talk: Aleksandra Osika "Fluctuations of glaciers in S Svalbard from geochronological data and numerical modelling" (20 min)

Talk: José M. Muñoz-Hermosilla "On the use of a 3D glacier-fjord model to study a marine-terminating glacier front position" (20 min)

10.30 - 11.00 Coffee & Tea Break

11.00 - 13.00 Shrinking glaciers and thawing permafrost – Speedup of landscape and seascape changes (part II)

Invited Lecture: Andy Hodson "The Biogeochemical consequences of glacier retreat in Svalbard: a landscape perspective" (30 min)

Talk: Raul-David Șerban "Spatial variability of ground surface temperature across scales and permafrost detection" (20 min)

Talk: Abhishek Bamby Alphonse "Soil moisture investigation using UAV-based Thermal and Multi-Spectral data with in situ measurements in the Hornsund area (SW Spitsbergen)" (20 min)

Talk: Wiesław Ziaja "Current landscape and ecosystem transformation in Sørkapp Land, Spitsbergen" (20 min)

Invited Lecture: Sławomir Sułowicz "Microbial biodiversity as a biomarker of changes in polar ecosystems" (30 min)

13.00 - 14.00 Lunch Break

14.00 - 15.50 Looking into the future – The IPY 2032-2033 challenge

Invited Lecture: Will Kochtitzky "Rapid change at the ice-ocean interface: mass loss and retreat of marine-terminating glaciers" (30 min)

Talk: Agata Kołodziejczyk "Can polar be green? Biological and chemical analysis of ground samples collected around the Hornsund base to determine the optimal medium for food production in extreme environments." (20 min)

Talk: Agata Zaborska "Enhanced heavy metal and ¹³⁷Cs discharges to marine deposits in glacial bay of an Arctic fjord (Hornsund)" (20 min)

Talk: Paulina Pakszys "Looking into the future of Svalbard's atmosphere. State based on HERMOSA (SESS 2022)" (20 min)

Talk: Olga Czeranowska-Panufnik "Designing sustainable and resilient communities and research stations in the Arctic" (20 min)

15.50 - 16.20 Coffee & Tea Break

16.20 - 18.00 Ignite session of discussions on the ICARP IV priority themes

Panelists:

Agata Goździk (moderator)

Renuka Bathe, Heikki Lihavainen, Agnieszka Beszczyńska-Moeller, Aleksandra Osika

18.00 - 18.10 Closing remarks & Wrap-up

18.30 - 20:30 **OPTION 1**
Transfer to the Horyzont II (18:30)
Dinner on the Horyzont II board

OPTION 2
Evening Refreshment (UNIS)

1st September

OPTION 1 Hornsund & Isfjorden region on the Horyzont II board

- 8.00** Breakfast
- 9.00 - 10.00** Landing in Hansbukta (Hornsund)
- GROUP 1**
- 10.00 - 16.00** Field trip to Revdalen
- 17.00 - ...** Evening meal and the night on the board

GROUP 2

- 10.00 - ...** Field trip to Werenskioldbreen (workshop) with the night at the Stanislaw Baranowski Polar Station of the University of Wroclaw c. 2x20 km by foot

Group indication will take place during the cruise.

We would recommend outdoor shoes, clothes, backpacks and sleeping bags.

The ship's kitchen will provide food.

OPTION 2 Billefjorden & Adventdalen region

- 9.30** The meeting point: port "Turistkaia"
- 10.00** Cruise by Bettermoments speedboats (2 x 12 passengers) ca 12:00, we reach Petuniabukta - Adam Mickiewicz University Polar Station (AMUPS); guided tour in the area
- 15.00** Leave Petuniabukta
- 17.00** Longyearbyen

We would recommend that you take outdoor shoes, clothes & backpacks with you. We do not provide food during the local workshop (Sept 1-2).

2nd September

OPTION 1 Hornsund & Isfjorden region on the Horyzont II board

GROUP 1

- 8.00 Breakfast
- 9.00 - 10.00 Landing in Hansbukta (Hornsund)
- 10.00 - 16.00 Hansbreen workshop and visit the Polish Polar Station (PPS)

GROUP 2

- 8.00 - ... Return from the Stanislaw Baranowski Polar Station of the University of Wroclaw with stop in Hyttevika for workshop; visit the Polish Polar Station (PPS)
- 19.00 Evening meal and the night on the board (all IPS-2023 participants)

OPTION 2 Billefjorden & Adventdalen region

- 9.00 The meeting point at the Vault Hotel and the safety rules remainder

Field trips:

- **Under perfect weather conditions:** Nordenskiöldtoppen Mountain (6h)
- **Under variable weather conditions:** Sarkofagen Mountain (with a trip along lower parts of the Londyearbreen and Larsbreen glaciers (6h)
- **During adverse weather conditions:** "off-road" in the Advent Valley (2h)

3rd September

OPTION 1 Hornsund & Isfjorden region on the Horyzont II board

- 8.00** Breakfast
- 9.00 - 12.30** Brepollen workshop from the ship's deck (part I)
- 13.00** Lunch
- 14.30 - 17.00** Brepollen workshop from the ship's deck (part II)
- 19.00** Evening meal

The night transfer to Isfjorden by the Horyzont II

4th September

OPTION 1 Hornsund & Isfjorden region on the Horyzont II board

- 8.00** Breakfast
- 9.00 - 10.00** Landing in Petuniabukta
- 10.00 - 14.00** Workshop based on **AMUPS-Adam Mickiewicz University Polar Station**
- 16.00** Evening meal
- approx. 18.00** Return to Longyearbyen

Local Workshop Map: Billefjorden & Adventdalen



Adam Mickiewicz University Polar Station (AMUPS)

PETUNIABUKTA

BILLEFJORDEN

ISFJORDEN

Harbour "Turistkaia"

Longyearbreen

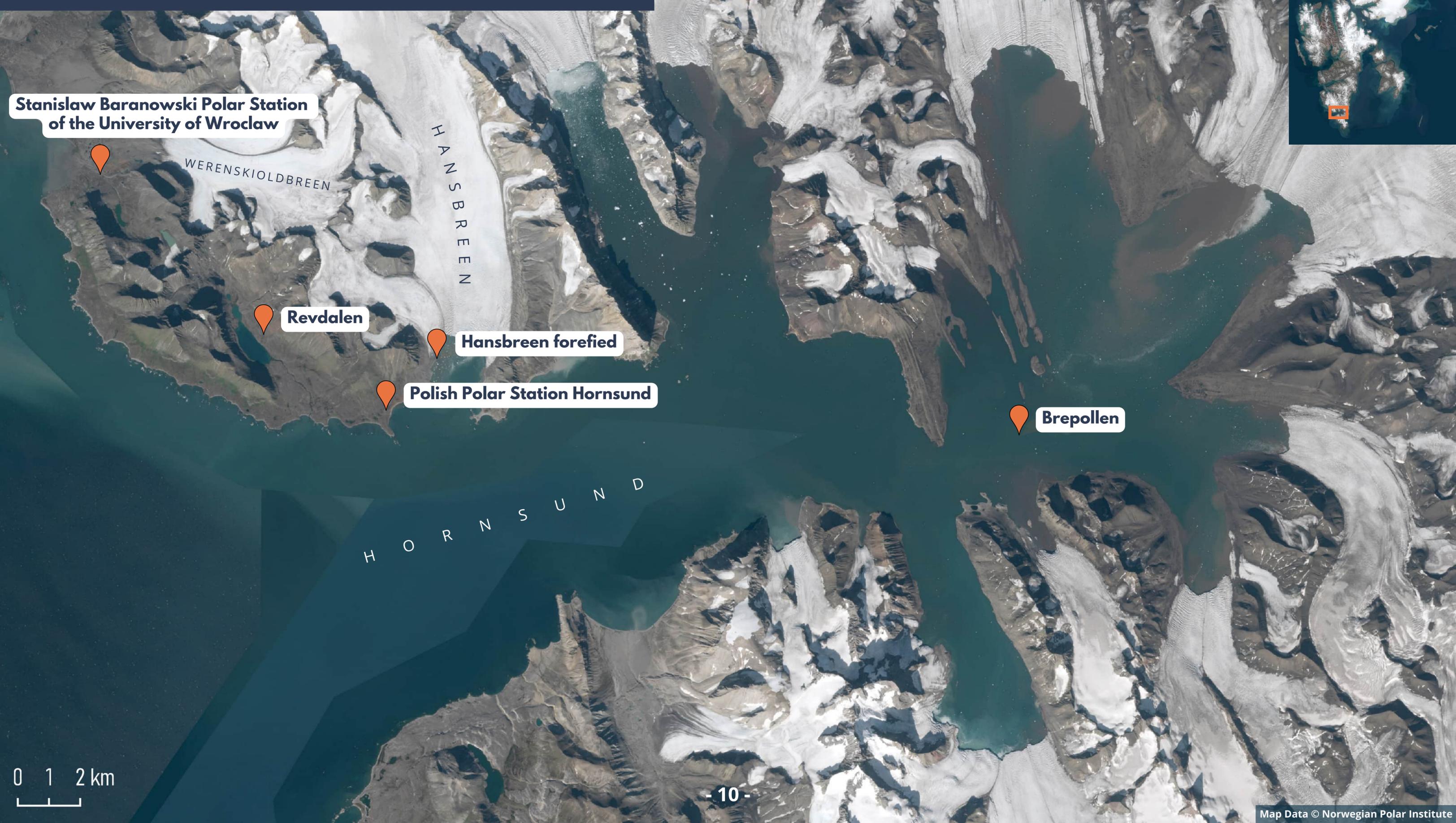
Adventdalen

Nordenskiöldtoppen Mountain

0 5 10 km

- 9 -

Field Workshop Map: Hornsund & Isfjorden



**Stanislaw Baranowski Polar Station
of the University of Wroclaw**

WERENSKIOLDBREEN

HANSBREEN

Revdalen

Hansbreen forefied

Polish Polar Station Hornsund

Brepollen

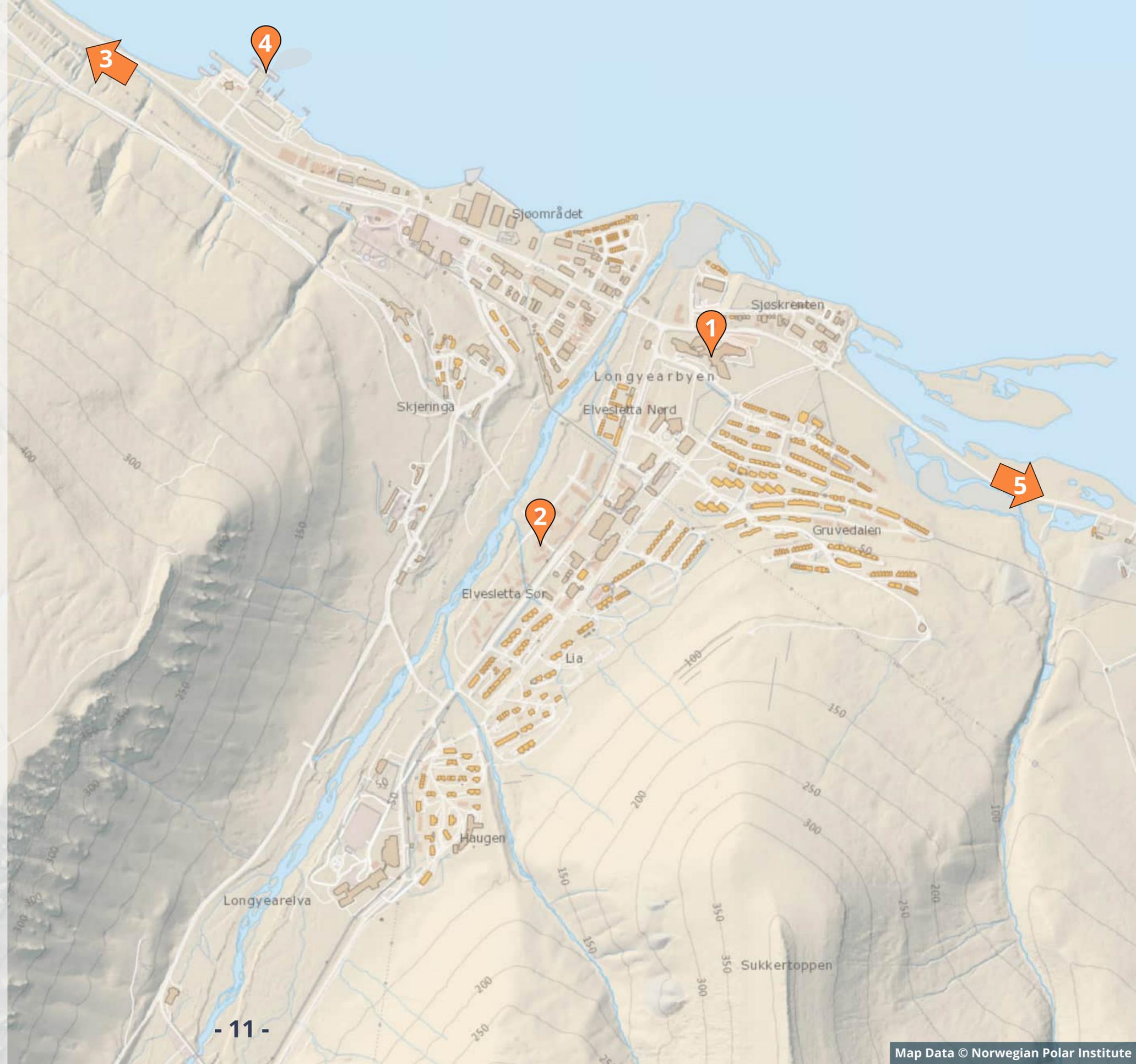
H O R N S U N D

0 1 2 km

CITY MAP

Longyearbyen

- 1 The University Centre in Svalbard (UNIS)
- 2 Svalbard Hotell | The Vault (accommodation)
- 3 Airport (7-minute drive)
- 4 Harbour "Turistkaia"
- 5 Adventdalen



ORGANIZING COMMITTEE



Marta Chmielewska
Co-Chair
University of Silesia in Katowice



Christiane Hübner
Svalbard Integrated Arctic Earth
Observing System



Natalia Łatacz
University of Silesia in Katowice



Elżbieta Łepkowska
Chair
Centre for Polar Studies, Polish Polar
Consortium and University of Silesia in Katowice



Łukasz Małarzewski
University of Silesia in Katowice



Aleksandra Osika
International Environmental Doctoral School
associated with the Centre for Polar Studies
at the University of Silesia in Katowice



Paulina Pakszys
Institute of Oceanology
of the Polish Academy of Sciences

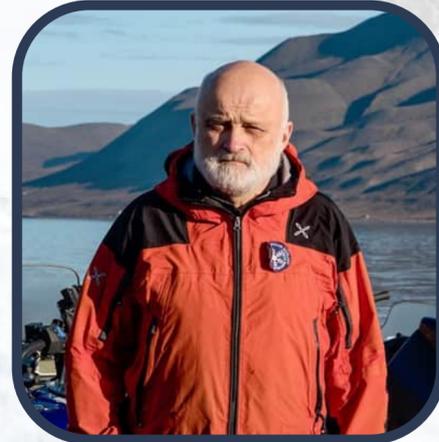


Katarzyna Stachniak
International Environmental Doctoral School
associated with the Centre for Polar Studies
at the University of Silesia in Katowice

SCIENTIFIC COMMITTEE



**Agnieszka
Beszczyńska-Moeller**
Institute of Oceanology of
the Polish Academy of Sciences



Josef Elster
Centre for Polar Ecology,
University of South Bohemia



Piotr Głowacki
Institute of Geophysics of
the Polish Academy of Sciences



Mariusz Grabiec
International Environmental Doctoral School
associated with the Centre for Polar Studies at
the University of Silesia in Katowice



Jon Ove Hagen
University of Oslo



Andy Hodson
University Centre in Svalbard



Dariusz Ignatiuk
University of Silesia in Katowice and
Polish Polar Consortium



Jacek A. Jania
Chair
Centre for Polar Studies at the
University of Silesia in Katowice



Heikki Lihavainen
Svalbard Integrated Arctic
Earth Observing System



Ewa Łupikasza
University of Silesia in Katowice

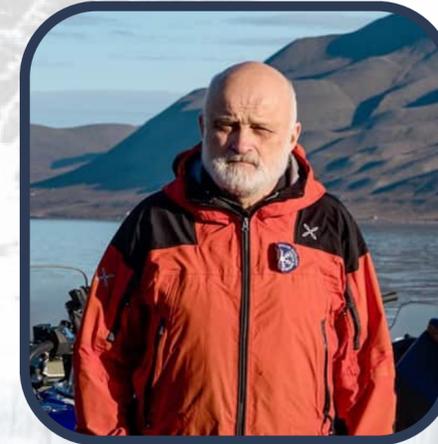
KEYNOTE SPEAKERS



**Agnieszka
Beszczyńska-Moeller**
Institute of Oceanology of
the Polish Academy of Sciences



Gijsbert D. Breedveld
The University Centre in Svalbard



Josef Elster
Centre for Polar Ecology,
University of South Bohemia



Jon Ove Hagen
University of Oslo



Andy Hodson
University Centre in Svalbard



Will Kochtitzky
University of New England, USA



Ewa Łupikasza
University of Silesia in Katowice



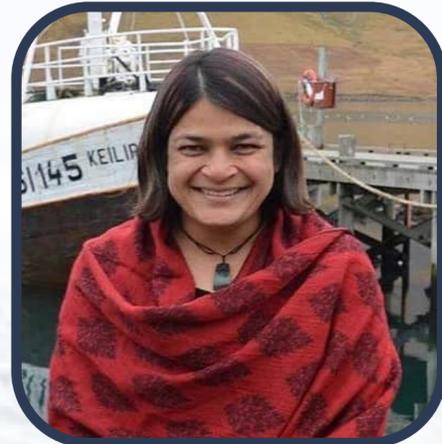
Mateusz Strzelecki
University of Wrocław



Sławomir Sułowicz
University of Silesia in Katowice

PANELISTS

IGNITE SESSION OF DISCUSSIONS ON THE ICARP IV PRIORITY THEMES



Renuka Badhe
European Polar Board



**Agnieszka
Beszczyńska-Moeller**
Institute of Oceanology of
the Polish Academy of Sciences



Agata Goździk
Moderator
Institute of Geophysics of
the Polish Academy of Sciences



Heikki Lihavainen
International Environmental Doctoral School
associated with the Centre for Polar Studies
at the University of Silesia in Katowice
Svalbard Integrated Arctic Earth
Observing System



Aleksandra Osika
International Environmental Doctoral School
associated with the Centre for Polar Studies
at the University of Silesia in Katowice

BASIC FIELD SAFETY & GUIDELINES IN SVALBARD

- **Be equipped for bad weather, even on short trips. The weather in Svalbard can change suddenly and the felt air temperature may be much lower than measured by thermometers. Always take windproof and waterproof clothes.**
- **Mind your steps. The tundra in summer may be wet and boggy. Avoid muddy glacial sediments (e.g. clay). Walk on moraines carefully with good hiking shoes. In the mountains, be prepared for loose and slippery stones.**
- **Take care of the biodiversity. Do not pick flowers. Do not disturb animals.**
- **Mind polar bears in the field. Do not leave settlements without a suitable weapon. If you see a polar bear, you must not under any circumstances approach the animal.**
- **Avoid animals with the symptoms of rabies.**
- **Leave old cultural remains alone. The law protects all traces of humans from before 1946.**
- **In the field, do not take water from an uncertain source.**
- **Take care of yourself and your companions.**

We strongly recommend you to read this before you come:
<https://en.visitsvalbard.com/visitor-information/safety-in-svalbard>



SUGGESTED PACKING LIST

The temperature in summer usually fluctuates between 0 and 10 degrees Celsius. The weather may change suddenly and you should be prepared for long-lasting rain and cold wind. Extra pairs of gloves, socks and layered clothing are recommended. We recommend wollen clothes and a down jacket for field trips.

What should you take?

- hat
- scarf
- gloves
- thermoactive underwear (base-layer)
- woollen / down sweater (mid-layer)
- wind- and waterproof jacket (top-layer)
- wind- and waterproof pants
- wollen socks (several pairs)
- hiking boots
- regular indoor clothing for the conference and on ship
- regular underwear, sleepwear and toiletries
- sunglasses
- backpack for field trips (e.g. 30 l)
- water bottle/thermos
- passport, other documents
- light shoes (for indoor use)

Other

- search and rescue insurance (**OPTION 1**)
- mobile phone and charger
- camera and charger
- poster for the conference (if applicable)

Optional

- sleeping bag (for night at the Stanislaw Baranowski Polar Station of the University of Wroclaw)
- flip-flops (for crossing the Revelva river)
- gaiters
- wellington boots with thick soles
- binocular
- headlamp (in case of late field activity or emergency)
- trekking poles
- crampons

Feel free to extend the list as needed.

USEFUL LINKS

- **Where to Stay:** <https://en.visitsvalbard.com/where-to-stay>
- **Flight tickets - both SAS and Norwegian fly to Svalbard, but not on all weekdays.**
<https://www.flysas.com/en/>
<https://www.norwegian.com/>
- **How to dress:** <https://en.visitsvalbard.com/visitor-information/travel-information/how-to-dress-in-svalbard>
- **E-learning for Svalbard researchers:** <https://spitzbergenprojekt.pageflow.io/e-learning-for-svalbard-researchers#313426>
- **Map of Svalbard:** <https://toposvalbard.npolar.no/>
- **Governor of Svalbard:** <https://www.sysselmesteren.no/en/>



See you in Svalbard!

Edited by:
Natalia Łatacz
Elżbieta Łepkowska
Aleksandra Osika
Jacek Jania

Photo cover:
Dariusz Ignatiuk
Elżbieta Łepkowska
Piotr Łepkowski
Aleksandra Osika
archives sbs Horyzont II

Graphic design:
Natalia Łatacz

