

# Svalbard Science Conference

Scandic Fornebu

Oslo, 6–8 November 2017





## Monday 6<sup>th</sup> November

### Setting the stage

10:30-11:30 **Registration**

11:30-12:30 **Lunch**

#### **12:30-12:45 High ambitions for Svalbard research**

Welcome by Director *Christina I.M. Abildgaard*, Research Council of Norway  
Welcome by Special Adviser *Kirsten Broch Mathisen*, Svalbard Science Forum

#### **12:45-14:00 The relevance of Svalbard research meeting global challenges**

Svalbard - A unique location and vantage point for polar research.  
Dr. *David Carlson*

Atmospheric Research from Svalbard in a Pan-Arctic Context  
– From Svalbard to Kigali. Dr. *Cathrine Lund Myhre*, NILU

Connecting Svalbard with the future and the world. Prof. *Jason Box*, GEUS

#### **14:00-14:30 Break/ Open APECS meeting**

#### **14:30-15:20 The importance of Svalbard research in the future**

*Moderator: Ruth Astrid L. Sæter*

International dialogue addressing future plans for Svalbard research and funding possibilities.

*Panel:* Acting director Aleksandr Makarov (AARI); Dr. Julia Boike (AWI); Director Ole Arve Misund (NPI); Head of Unit Andrea Tilche (European Commission); Director Christina I.M. Abildgaard (RCN)

#### **15:20-17:10 Tool Box: new tools, methods, platforms to conduct research in Svalbard**

The session will highlight new “tools”, new methods, new technologies, new platforms etc. which can be used to do science in a new way, more coordinated way, a more shared way.

From vision to action: new SIOS products for ESS research,  
Dr. *Christiane Hübner* (SIOS)

Efficient and innovative use of drones for scientific data collection in the Arctic,  
Dr. *Rune Storvold* (NORUT)

Autonomous technology for documenting the environment in the Arctic,  
Prof. *Martin Ludvigsen* (NTNU)

The icebreaker wessel Kronprins Haakon, a new platform for Arctic science, *Øystein Mikelborg* (NPI)

New ways of finding collaborators through RiS,  
*Margrete Nilsdatter Skaktavl Keyser* (SSF/RiS)

New and plentiful opportunities for Arctic research through Horizon 2020,  
*Janicke Giæver* (RCN)

New ways of coupling research and education,  
Associate Prof. *Pernille Bronken Eidesen* (UNIS)

New ways of staying safe, *Ann Christin Auestad* (Arctic Safety Centre)

Improved image geometry of Sentinel-2 data for Norway and Svalbard,  
Dr. *Anna Maria Trofaier* (SIOS)

Dynamic graphics for improved data visualization,  
Prof. *Michael Greenacre* (UPF, Barcelona & Akvaplan-niva)

**17:30-18:30 Posters are presented**

*How can my work contribute to others' research and what do I need from the others in order to advance and improve our activity?*

**19:00- Dinner**



## Tuesday 7<sup>th</sup> November

### Connecting Svalbard research – Invited speakers

**09:30-11:30 From observation to integrated studies - wider use of data**

*Chair: Prof. Børge Damsgård, UNIS*

This session will explore and give examples of how comprehensive data is collected, processed and managed, so that it can be prepared for use in modelling investigations leading to integrative studies, which can answer the complex aspects of the Arctic in the Earth System.

*Introduction by chair*

The Bayelva high Arctic permafrost long-term observation site: an opportunity for joint international research on permafrost, atmosphere, ecology and snow,  
Dr. *Julia Boike*, AWI

Tundra shrubs in a warming climate: even simple sampling can be used for understanding integrated implications across the Arctic,  
Prof. *Mads Forchhammer*, UNIS

There and back again. An illustration of needs for cross-scale and cross-discipline collaboration and data sharing, Dr. *Arild Sundfjord*

NPI Consilience – the unity of sciences for the Svalbard research, Prof. *Jan Marcin Weslawski*, IOPAN

Panel and plenary discussion.

**11:30-12:30 Lunch**

**12:30-14:30 Drivers of environmental changes - climatic and other human factors**

*Chair: Dr. Cathrine Lund Myhre, NILU*

Climate change, natural and anthropogenic, is the largest force modifying the Arctic environment. Additional drivers are less studied, but are not negligible either. In this session the interplay between the various drivers will be highlighted and investigated.

*Introduction by chair*

The recent warming on Svalbard and its relation to atmospheric circulation and sea ice cover, Dr. *Ketil Isaksen*, MET Norway

Measurements on Svalbard to constrain the long-range transport of air pollutants into the Arctic, Dr. *Andreas Stohl*, NILU

Methane release related to retreat of the Svalbard – Barents Sea ice sheet, Prof. *Karin Andreassen*, UiT

Svalbard's glaciers in a changing climate, Dr. *Carleen H. Reijmer*, Utrecht University

Panel and plenary discussion.

**14:30-15:00 Break**

**15:00-17:00 A global context for Svalbard research - connecting to the world**

*Chair: Prof. Jun Inoue, NIPR*

Processes in the Arctic have influences and teleconnections to mid latitudes and vice versa. This session will highlight the interconnectedness of Svalbard with mid-Europe and other southerly latitudes.

*Introduction by chair*

Symptoms of Arctic Amplification observed in Ny-Ålesund, Dr. *Marion Maturilli*, AWI

Atmospheric linkages between the Arctic and mid-latitudes, Prof. *Timo Vihma*, FMI

Skilful prediction of northern climate provided by the ocean, Prof. *Tor Eldevik*, UiB

The AC3 project: why is the Arctic warming faster than the mid latitudes?, Prof. *Susanne Crewell*, University of Cologne

Panel and plenary discussion.

**17:00-18:00 Posters are presented**

**19:00- Dinner**



## Wednesday 8<sup>th</sup> November

### Thematic research and cooperation within and across disciplines – Parallel sessions

#### 09:00-10:20 Introduction to parallel sessions

*Chair:* Dr. Maarten Loonen, Chair of Ny-Ålesund Science Managers Committee (NySMAC)

The interconnectedness and future plans of atmosphere research in Svalbard, Dr. Roland Neuber, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research

Overview of Svalbard glaciological research, Dr. Jack Kohler, Norwegian Polar Institute

The interconnectedness and future plans of Marine research in Svalbard, Prof. Kai Bischof, University of Bremen – Marine Botany

Joining forces to strengthen our science and terrestrial research in Svalbard, Dr. Maarten Loonen, University of Groningen – Arctic and Antarctic studies

#### 10:20-10:40 Break

#### 10:40-16:45 Atmosphere research in Svalbard

*Chair:* Dr. Roland Neuber, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research

Research on the atmosphere above Svalbard covers all altitudes from the ground to the ionosphere and investigates processes on short and long time scales. Long-term observations together with process studies, to understand physical and chemical processes, are key pieces in trying to understand the rapid climate changes we have seen in the Arctic the last decades. As Arctic surface temperatures increase twice as fast as in mid latitudes, their spatial and temporal developments are influenced by changes in atmosphere composition, sea ice cover and ocean temperatures, and connected to processes across latitudes and altitudes.

This session will consist of three parts. Part one will include presentations from ongoing or planned projects. Part two will allow us to convene in thematic groups to advance the collaborative actions. Part three, a poster session, will be open for all kinds of presentations and atmosphere topics.

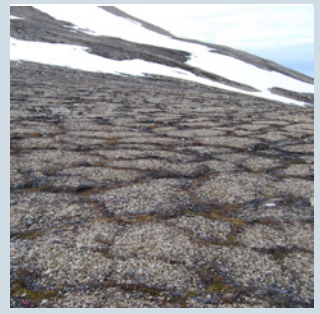
10:40-11:00 Boundary layer measurements on Svalbard,  
*Alexander Schulz, AWI*

11:00-11:15 Cloud-aerosol-boundary layer research,  
*Sang-Jong Park, Korea Polar Research Institute*

11:15-11:30 Understanding Arctic clouds using observations and modelling,  
*Kerstin Ebell, University of Cologne*

11:30-11:45 Aerosol vertical profiles in the Arctic,  
*David Cappelletti, University of Perugia*

11:45-12:00 Molecular steps of secondary aerosol formation,  
*Mikko Sipilä, University of Helsinki*



## 12:00-13:00 Lunch

- 13:00-13:15 Spatial distribution of impurity content, physical and chemical properties of seasonal snow across Svalbard, *Jean-Charles Gallet*, NPI
- 13:15-13:30 What's Svalbard snow can tell us, *Andrea Spolaor*, CNR, IDPA
- 13:30-13:45 Sources of aerosols in snow across Svalbard in 2015-16 winter, *Christian Zdanowicz*, Uppsala University
- 13:45-14:00 Transport and trends of emerging organic contaminants in the Arctic, *Zhiyong Xie*, Helmholtz-Zentrum Geesthacht
- 14:00-14:15 Monitoring of persistent organic pollutants using XAD-2 resin passive air sampler, *Qinghua Zhang*, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences
- 14:15-14:30 UV observations on Svalbard, *Georg Hansen*, NILU
- 14.30-14:45 Climate development in Longyearbyen, Svalbard, *Eirik J. Førland*, Norwegian Meteorological Institute
- 14:45-15:00 Pan-Svalbard temperature differences, *Sandro Dahlke*, AWI

## 15:00-15:30 Break

- 15:30-15:45 Spatial variability of XXI century land surface temperature (LST) trends on Svalbard based on MODIS data, *Alfred Stach*, Adam Mickiewicz University
- 15:45-16:00 Influence of atmospheric circulation changes on wintertime Arctic sea ice and climate, *Christophe Leroy-Dos Santos*, Laboratoire des Sciences du Climat et de l'Environnement
- 16:00-16:45 Speed poster presentations. A speedy one page – one minute – one person stage race to attract you to posters

## 10:40-16:45 Terrestrial research in Svalbard

*Chair: Dr. Maarten Loonen*, University of Groningen  
– Arctic and Antarctic studies

Less ice covering the fjords and more icing on land. More precipitation as rain and earlier snow melt. These trends cascade through the food web of microbes, insects, birds, herbivores and predators. How can we quantify these changes towards input of global models?

Thawing permafrost can release climatically active gasses, but higher temperatures can increase peat formation. What are the predicted effects of temperature, plant growth, microbes, grazing and decomposition on the net carbon balance?

The format will be a few 20 min. oral presentations and 5 min. poster presentations on ideas and data, which can be used in the following discussion on the next step in cooperation. Part of the session will be used to draft research proposals on both themes to improve funding for international cooperation in terrestrial research.

- 10:40-11:00 Landscape change and the emission of greenhouse gases in Central Spitsbergen, *Andrew Jonathan Hodson*, UNIS
- 11:00-11:20 Ecosystem carbon cycle in Brøgger Peninsula, Ny-Ålesund, Svalbard, *Takayuki Nakatsubo*, Hiroshima University
- 11:20-11:40 The land-atmosphere exchange of methane and carbon dioxide at the Adventdalen ice-wedge site, Svalbard, *Norbert Pirk*, University of Oslo
- 11:40-11:45 Very high nitrification and denitrification potentials of soils on the talus under a kittiwake-cliff in Ny-Ålesund, *Kentaro Hayashi*, Institute for Agro-Environmental Sciences, NARO
- 11:45-11:50 Preliminary report for measurements of soil CO<sub>2</sub> concentrations throughout the year at Ny-Ålesund, *Masaki Uchida*, National Institute of Polar Research
- 11:50-11:55 The influence of permafrost on slope dynamics in Svalbard, *Hanne H. Christiansen*, UNIS
- 11:55-12:00 Correlates of spatiotemporal variation in ground ice in Spitsbergen, Svalbard, *Bart Peeters*, NTNU
- 12:00-13:00 Lunch**
- 13:00-13:05 tbc
- 13:05-13:10 Spatially distributed monitoring of snow covered area and ground thermal regime around Ny-Ålesund, *Sebastian Westermann*, University of Oslo
- 13:10-13:15 Dynamics of snow cover characteristics exerting influence on stability of the permafrost on Svalbard, *Nikolay Osokin*, Institute of Geography RAS
- 13:15-13:20 Photosynthetic performances and isotopic signature in Arctic plant species, *Angela Augusti*, Institute of Agro-environmental and Forest Biology – CNR
- 13:20-13:40 Snow-vegetation-permafrost interactions on Svalbard, insights from a snow manipulation experiment and remote sensing, *Frans-Jan W. Parmentier*, The Arctic University of Norway
- 13:40-14:00 The importance of annual and shorter term temperature patterns and variation in the surface levels of polar soils for polar terrestrial biota, *Peter Convey*, British Antarctic Survey
- 14:00-14:20 Pollution in terrestrial Arctic ecosystem: Collembolas as recipients of marine pollution via bird cliffs, and their susceptibility to effects, *Silje Marie Kristiansen*, University of Oslo
- 14:20-14:25 Russian investigation of lichens on Nordaustlandet (Svalbard), *Liudmila Konoreva*, The Polar-Alpine Botanical Garden and Institution
- 14:25-14:30 The study of Svalbard local moss diversity and possibilities for cooperation with other researches, *Olga Belkina*, Polar-Alpine Botanical Garden and Institute, Kola Science Center, Russian Academy of Sciences



- 14:30-14:35 Remote Sensing of plant functional diversity, *Eefje de Goede*, Leiden University
- 14:35-14:40 Characteristics of species composition and community structure on Austre Lovénbreen Glacier foreland, Svalbard, *Yi-Feng Yao*, Institute of Botany, Chinese Academy of Sciences
- 14:40-14:45 Airborne contaminants in terrestrial environments in Svalbard, *Edyta Lokas*, Institute of Nuclear Physics Polish Academy of Sciences
- 14:45-14:50 Systemic pattern of environmental pollution: organochlorines and heavy metals in soils and plants of Barentsburg and surrounding area, *Andrey S. Demeshkin*, RPA “Typhoon”
- 14:50-14:55 Effect of migration strategy on pollutant concentrations in eggs of Arctic breeding barnacle geese (*Branta leucopsis*), *Daniel Hitchcock*, University of Oslo
- 14:55-15:00 tbc
- 15:00-15:20 Break**
- 15:20-15:40 Climate-Ecological Observatory for Arctic Tundra (COAT), *Åshild Ønvik Pedersen*, NPI
- 15:40-16:00 Synchronous fluctuations but diverging trends: spatial patterns of Svalbard reindeer population dynamics under recent climate change, *Brage Bremset Hansen*, NTNU
- 16:00-16:20 The impact of geese on aquatic biodiversity in the high Arctic, *Thomas C. Jensen*, NINA
- 16:20-16:40 Density and climate interactions influence barnacle goose population dynamics, *Kate Layton-Matthews*, NTNU
- 16:40-16:45 Effects of simulated pink-footed goose grubbing and climate warming on ecosystem process rates of three High Arctic plant communities, *Matteo Petit Bon*, UNIS

**10:40-16:45 Marine research in Svalbard**

Chair: Prof. *Kai Bischof*, University of Bremen – Marine Botany

Progressing Atlantification, retreat of tidal glaciers, and changing contaminant loads are impacting Svalbard fjord systems, particularly on the western shores of the archipelago. In Kongsfjorden, recent hydrographic changes produced a pronounced influx of Atlantic water into the fjord system during winter, which may have driven the cold system (prior to 2006) to a “warm system” with winter temperatures above freezing and little landfast ice in the fjord. As a consequence, the locally adapted flora and fauna will progressively need to compete with boreal species.

This session is meant to gather baseline information on and allow for networking within the research priorities mentioned in the call for abstract. After the presentation of current research activities and plans in a number of talks, time will be allotted encouraging participants to team-up and discuss and advance project ideas directed to the topics mentioned in the call for abstract.



- 10:40-11:00 Integrated observations: traditional time series and new technologies, *Finlo Cottier*, Scottish Association for Marine Science, UiT
- 11:00-11:20 Changes and variability of fast ice extent and thickness over the last two decades in Kongsfjorden, Svalbard, *Sebastian Gerland*, NPI
- 11:20-11:40 History of heavy metal accumulation in the Svalbard area: distribution, origin and transport pathways, *Agata Zaborska*, Institute of Oceanology Polish Academy of Sciences
- 11:40-12:00 The importance of tidewater glaciers on the Kongsfjorden system: proposal for a new working group under the Kongsfjorden system flagship, *Harald Steen*, NPI
- 12:00-13:00 Lunch**
- 13:00-13:15 Land-fjord interaction and the impact of changing sedimentation rates on fjord environments – an integrated study of Arctic sediment transport from land to sea, *Maria Jensen*, UNIS
- 13:15-13:30 Where land meets sea: effects of terrestrial inputs on Svalbard's coastal ecosystems, *Amanda Poste*, NIVA
- 13:30-13:45 Dense water plumes SW off Spitsbergen Archipelago (Arctic) in 2014-2017, *Manuel Bensi*, National Institute of Oceanography and Experimental Geophysics - OGS
- 13:45-14:00 Morphodynamics and sedimentary processes in arctic transitional environments: Dicksonfjorden, Svalbard, *Kyungsik Choi*, Seoul National University
- 14:00-14:15 From the dark side - polar night research in Kongsfjorden, *Malin Daase*, UiT
- 14:15-14:30 Muddy waters: plankton and nutrient dynamics below the brown plumes in front of active tidewater glaciers in Kongsfjorden, Svalbard, *Haakon Hop*, NPI
- 14:30-14:45 Arctic phytoplankton under multiple stressors – insights from 4 years of field work in Ny-Ålesund, *Clara J.M. Hoppe*, AWI
- 14:45-15:00 Warming and ocean acidification effects in the seaweed community of West Spitsbergen, *Francisco J. L. Gordillo*, University of Malaga
- 15:00-15:30 Break**
- 15:30-15:45 Svalbard marine mammals and climate change, *Kit M. Kovacs*, NPI
- 15:45-16:00 Black-legged kittiwakes as messengers of Atlantification in Kongsfjorden, *Mikko Vihtakari*, NPI
- 16:15-16:30 Settlements on Svalbard as sources for emerging contaminants, *Anita Evensen*, Akvaplan-niva
- 16:30-16:45 Bioerosion patterns in a polar carbonate factory (Mosselbukta, Svalbard), *Neele Meyer*, Senckenberg am Meer

**10:40-16:45 Glaciological research in Svalbard**

Chair: Dr. Jack Kohler, Norwegian Polar Institute

Liestøl Symposium: integrating field measurements, remote sensing, and models of Svalbard glacier mass balance.

Glaciers cover about 60 % of Svalbard and most of them are clearly shrinking. Changes in glacier extent, surface properties and meltwater runoff have implications on Arctic ecosystems, the surface energy budget, and global sea level change. To assess these impacts, we need a better knowledge of past and future changes in the Arctic glacier systems and their link with ongoing climate change.

The format will be a number of 20 min. oral presentations, and a series of 5 min. talks summarizing poster presentations, all on Svalbard glacier mass balance. The workshop is named in honor of the pioneering Norwegian glaciologist Olav Liestøl (1916-2002), who initiated mass balance measurements in Svalbard in the 1950s, including the record from Austre Brøggerbreen, which in autumn 2017 will be 50 years long.

10:40-11:00 Introduction, *Jack Kohler*, NPI

11:00-11:20 The start of Norwegian glaciological research on Svalbard, *Olav Orheim*

11:20-11:40 The history of direct mass balance time series in Spitsbergen, Svalbard, *Jon Ove Hagen*, University of Oslo

11:40-12:00 Current status of Svalbard glacier mass balance and needs for future assessments, *Thomas Vikhamar Schuler*, University of Oslo

**12:00-13:00 Lunch**

13:00-13:20 Coupled atmosphere – climatic mass balance modeling of Svalbard glaciers, *Kjetil S. Aas*, University of Oslo

13:20-13:40 A high-resolution dataset of climatic mass balance, snow conditions and runoff in Svalbard between 1957 and 2017, *Ward van Pelt*, Uppsala University

13:40-14:00 Geodetic measurements at Svalbard. Implications for glaciology and solid Earth sciences, *Halfdan P. Kierulf*, Norwegian Mapping Authority

14:00-14:20 Climate and surface energy balance of Nordenskiöldbreen, Svalbard: 10 years of in situ observations, *C. H. Reijmer*, Utrecht University – Institute for Marine and Atmospheric Research

14:20-14:40 Detection of Svalbard glaciers on satellite imagery with subpixel accuracy, *Julian Podgórski*, Institute of Geophysics, Polish Academy of Sciences

14:40-15:00 MODIS detection of Svalbard glacier snowlines, *Jack Kohler*, NPI

**15:00-15:30 Break**



15:30-15:50 Monitoring the cryosphere on Svalbard using environmental seismology, *Andreas Köhler*, University of Oslo

15:50-16:10 The CalvingSEIS project: glacier dynamic ice loss quantified through seismic eyes, *Christopher Nuth*, University of Oslo

16:10-16:30 Seismic and infrasonic monitoring of glacier destruction, *Andrey Fedorov*, Kola Branch of Geophysical Survey of Russian Academy of Sciences

### 16:30-16:50 Posters

Spatial and temporal variability of ablation based on the Waldemar Glacier (Kaffiøyra, Svalbard), *Marta Majerska*, Nicolaus Copernicus University

Mass balance observation of Aldegonda Glacier and West Grønfjord Glacier, West Svalbard, *Gleb Tarasov*, Arctic and Antarctic Research Institute

Calibration and validation of interferometric synthetic aperture radar altimetry for mass balance estimation in Svalbard – preliminary results, *Ashley Morris*, NPI

Glacier front detection through mass continuity and remote sensing, *Bas Altena*, University of Oslo

Subglacial hydrology and spatiotemporal variation of fresh water flux to Kongsfjorden, *Ankit Pramanik*, NPI

Geodetic constraints on ice-mass changes on Svalbard, *Kristian Breili*, Norwegian Mapping Authority

Characterising size and frequency of calving events based on high temporal time-lapse and automatic image processing, *Pierre-Marie Lefevvre*, University of Oslo

Isotopic signatures, physical-chemical features and flow rates of glacial drainages in the Ny-Ålesund area, Svalbard, *Marco Doveri*, National Research Council of Italy – Institute of Geosciences and Earth Resources

Dynamics of snow cover characteristics exerting influence on stability of the permafrost on Svalbard, *Nikolay Osokin*, Institute of Geography RAS

Monitoring glacier displacement in Western Svalbard using Landsat 8 and Sentinel-1 Data, *ZHOU Chunxia*, Chinese Antarctic Center of Surveying and Mapping, Wuhan University

Long-term glacier mass-balance monitoring of Austre Lovénbreen glacier in Ny-Ålesund Svalbard, *Li Zhongqin*, Wuhan University

High temporal and spatial interferometric radar measurements of Kronebreen, Spitsbergen, *Rune Gundersen*, ISPAS

### 16:45-17:15 Break

### 17:15-17:45 Using Svalbard for educating the next generation of Arctic Scientists

Concluding session by Prof. *Hanne H. Christiansen*, UNIS

### Advisory Scientific Committee:

Prof. *Kai Bischof* (University of Bremen), Prof. *Harald Ellingsen* (SSF),  
Dr. *Kim Holmén* (SSF), Dr. *Jack Kohler* (NPI), Prof. *Marek Lewandowski* (SSF),  
Dr. *Maarten Loonen* (SSF), Acting director *Aleksandr Makarov* (SSF),  
Dr. *Roland Neuber* (AWI), Dr. *Christina Pedersen* (NPI), *Carina Leander* (SSF secretariat)  
and *Thorbjørn Gilberg* (RCN).

## Thursday 9<sup>th</sup> November

### – Side events – open for all conference participants

#### 09:00-17:00 Atmosphere research in Svalbard

*Chair:* Dr. *Roland Neuber*, Alfred Wegener Institute Helmholtz  
Centre for Polar and Marine Research, and the Atmosphere  
Flagship in Ny-Ålesund

#### Tentative schedule:

09:00	Introduction and goals for the day
09:15	Establishment of today's discussion groups
10:30	Joint coffee break
11:00	Discussion groups continued
12:00	Joint lunch break
13:00	Discussion groups continued
14:30	Coffee break

Individual discussions and wrap ups

17:00 Adjourn

#### Suggested Discussion groups:

- Long term observations and trends, and radiation budget relevant parameters, *Marion Maturilli*, AWI
- Boundary Layer meteorology (in situ + remote sensing) from small scale mass and energy fluxes to BL structure (in-situ + remote sensing), *Angelo Viola*, CNR
- Clouds and aerosol observations: what we can learn about aerosol-clouds and clouds-aerosol interactions from combining remote sensing and in-situ observations, *Kerstin Ebell*, Univ. Cologne and *David Cappelletti*, Univ. Perugia
- Aerosol life cycle (remote sensing and in-situ observations, NyÅ & Zeppelin, special case of July 2015 biomass burning event), *Christoph Ritter*, AWI and *Radovan Krejci*, Stockholm University
- Snow & Atmosphere (from removal to deposition and redistribution in snow and ice), *C. Gallet*, NPI
- Atmosphere Composition, green house and trace gases, O<sub>3</sub> & UV, *Georg Hansen*, NILU
- Upper atmosphere / ionosphere



**09:00-11:00 Terrestrial research in Svalbard**

*Chair:* Dr. Maarten Loonen, University of Groningen and the Terrestrial Ecosystem Flagship in Ny-Ålesund

Informal discussion on research priorities and interdisciplinary research initiatives working towards a proposal for funding by the Svalbard Strategic Grant for the Terrestrial Ecosystem Flagship activities in Ny-Ålesund (deadline 22 Nov 2017).

**09:00-17:00 Liestøl Symposium: integrating field measurements, remote sensing, and models of Svalbard glacier mass balance**

*Chair:* Dr. Jack Kohler, Norwegian Polar Institute and the Glaciology flagship in Ny-Ålesund

09:00-09:20 On problems with mass balance studies of Svalbard tidewater glaciers, *Jacek A. Jania*, University of Silesia, Faculty of Earth Sciences – Centre for Polar Studies

09:20-09:40 Glacier-freshwater runoff: a possible driver of autumn phytoplankton blooms in seas around Svalbard, *Thorben Dunse*, University of Oslo

09:40-10:00 Seals like plumes, *Alistair Everett*, NPI

**10:00-10:30 Break**

10:30-10:50 Geophysical seafloor mapping applications in the fjords and shelf of Svalbard, *Riko Noormets*, UNIS

10:50-11:10 Long Term Underwater Sensing (LoTUS) at calving fronts in western Spitsbergen, *Nina Kirchner*, Stockholm University

11:10-11:30 Terrestrial and airborne remote sensing of calving glaciers in Svalbard, *Tom Rune Lauknes*, Norut

**11:30-12:30 Lunch**

12:30-12:50 Late Cenozoic geodynamics in Svalbard: interplay of glaciation, seafloor spreading and mantle convection, *Alexander Minakov*, University of Oslo

12:50-13:10 Holocene glacier fluctuations reconstructed from lake sediment at Kløsa and Vårfluesjøen, Spitsbergen, *Torgeir Opeland Røthe*, University of Bergen

13:10-13:30 Two decades of Svalbard ice core studies – progress and remaining challenges, *Elisabeth Isaksson*, NPI

13:30–13:50 New photogrammetric methods and the use of old photographs for quantitative analyses of glacier changes, *Per Holmlund*, Stockholm University

**13:50-14:20 Break**

- 14:20-14:40 Sub-ice topography of Nordaustlandet, Svalbard derived from potential field modelling, *Marie-Andrée Dumais*, Geological Survey of Norway
- 14:40-15:00 Fresh water input to the Hornsund Fiord (Southern Spitsbergen), *Malgorzata Blaszczyk*, University of Silesia
- 15:00-15:20 Mass balance, dynamics and isotopic study of selected glaciers in Spitsbergen, Svalbard, *AL. Ramanathan*, Jawaharlal Nehru University
- 15:20-15:40 10 years of monitoring in the Austre Lovénbreen catchment: results, cooperations and perspectives, *Florian Tolle*, Université de Bourgogne Franche-Comté, Laboratoire Théma
- 15:40-16:00 A radio wave velocity model contributing to precise ice volume estimation on Svalbard glaciers, *Songtao Ai*, Chinese Antarctic Center of Surveying and Mapping, Wuhan University
- 16:00-16:20 The mass balance of Nordenskiöldbreen and Lomonosovfonna 2006-2017, *Veijo A. Pohjola*, Uppsala university
- 16:20-16:40 Thermal conductivity and water content of firn at Lomonosovfonna derived from subsurface temperature measurements, *Sergey Marchenko*, Uppsala University

**09:00-12:00 Kongsfjorden System in Ny-Ålesund**

*Chair: Prof. Kai Bischof*, University of Bremen, and the Kongsfjorden System Flagship in Ny-Ålesund.

Informal discussion on research priorities and interdisciplinary research initiatives within the Kongsfjord System Flagship.

**09:00-16:00 Developing Arctic Observing systems – the role of Norwegian institutions**

*Chair: Prof. Stein Sandven*, Nansen Environmental and Remote Sensing Center (NERSC).

As the conference venue is full, this workshop will take place at the premises of the Norwegian Research Council, Drammensveien 288, Lysaker-Oslo.







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