1st (AC)³ Science Conference on Arctic Amplification
March 26th – 28th, 2017
University of Bremen, Institute for Environmental Physics (IUP), Otto-Hahn-Allee 1, 28359 Bremen

Agenda

SUNDAY, 26 March (Café Unique)
18:00 – 22:00 Ice Breaker

MONDAY, 27 March (IUP Bremen, HS2)
08:00 – 08:45 Registration desk
08:45 – 09:00 Opening of the conference (M. Wendisch)
09:00 – 10:30 Session A (Chairs: C. Lüpkes, M. Wendisch)
09:00 – 09:30 Keynote talk by Von P. Walden (Washington State University)
“The importance of surface energy fluxes in the Arctic: From sea ice to the top of Greenland”
09:30 – 09:50 Dmitry Chechin et al. (AWI-Bremerhaven)
“Atmospheric boundary layer evolution and associated low-level baroclinicity during cold-air outbreaks in the Arctic”
09:50 – 10:10 Christof Lüpkes et al. (AWI-Bremerhaven)
“A new bulk parametrization of surface fluxes for stable atmospheric conditions over sea ice”
10:10 – 10:30 Felix Lauermann et al. (University of Leipzig)
“Meter-scale horizontal variability of the cloud top radiative cooling derived from airborne spectral imaging over Arctic stratocumulus”
10:30 – 11:00 Coffee break
11:00 – 12:30  **Session B** (Chairs: A. Macke, J. Notholt)

11:00 – 11:30

Keynote talk by **Jost Heintzenberg** *(Stockholm University)*

“Water vapor, aerosols, and clouds in the Arctic”

11:30 – 11:45

**Elena Ruiz Donoso et al.** *(University of Leipzig)*

„Cloud thermodynamic phase discrimination over snow surfaces using passive solar remote sensing“

11:45 – 12:00

**Sebastian Zeppenfeld et al.** *(TROPOS)*

„Method development and first measurements of marine biopolymers and ice nucleating particles for the application in Arctic field samples“

12:00 – 12:15

**Linlu Mei et al.** *(University of Bremen)*

“Retrieval of aerosol optical thickness from passive remote sensing over the Arctic region”

12:15 – 12:30

**Ana Radovan et al.** *(University of Cologne)*

“Microwave brightness temperatures simulations at AMSU-B frequencies for a polar low case on 7th of January 2009”

12:30 – 13:30  **Lunch (Cafeteria)**

13:30 – 15:00  **Session C** (Chairs: J. P. Burrows, A. Bracher)

13:30 – 14:00

Keynote talk by **Ulrich Platt** *(Ruprecht-Karls-University Heidelberg)*

“Halogen chemistry in the polar boundary layer – The roles of meteorology, surface, and aerosol”

14:00 – 14:20

**Tobias Donth et al.** *(University of Leipzig)*

“Sensitivity of the surface albedo on micro- and macrophysical snow properties including Black Carbon”

14:20 – 14:40

**Astrid Bracher et al.** *(AWI-Bremerhaven)*

“Investigating variability and trend of three major phytoplankton groups during the period of rapid change based on modelling and satellite retrievals”

14:40 – 15:00

**Christine Pohl et al.** *(University of Bremen)*

“Influence of varying opening angle and spectral bandwidth on bidirectional reflectance factors”

15:00 – 15:30  **Coffee break**

15:30 – 18:00  **Poster session A – C** (see table below)
20:00 – 23:00  Evening talk and reception (Haus der Wissenschaften, Olberssaal) – Closed event

20:00 – 20:30  Evening talk by Sebastian Gerland (Norwegian Polar Institute) “Changing Arctic sea ice implications for climate, ecosystem and society”

20:30 – 23:00  Reception (drinks and finger food)

TUESDAY, 28 March (IUP Bremen, HS2)

08:30 – 09:00  Registration desk

09:00 – 10:30  Session D (Chairs: A. Rinke, J. Quaas)

09:00 – 09:30  Keynote talk by Dave Bromwich (Ohio State University) “Arctic system reanalysis of Arctic atmospheric circulation”

09:30 – 09:45  Ralf Jaiser et al. (AWI-Potsdam) “The linkage between Arctic sea ice changes and mid-latitude atmospheric circulation in reanalysis data and model simulations- Tropo-stratospheric coupling and barotropic interactions”

09:45 – 10:00  Philip Rostosky et al. (University of Bremen) “Snow depth retrieval on Arctic sea ice from satellite radiometers – extension to lower frequencies”

10:00 – 10:15  Rodrigo Caballero et al. (University of Stockholm) “Warming the Arctic with moist intrusions”

10:15 – 10:30  Jacob Schacht et al. (TROPOS) “Aerosol as a player in the Arctic Amplification – An aerosol-climate model evaluation study”

10:30 – 11:00  Coffee break

11:00 – 12:30  Session E (Chairs: S. Crewell, M. Maturilli)

11:00 – 11:30  Keynote talk by Irina Gorodetskaya (University of Aveiro) “Clouds and precipitation in the polar regions: Integration and synthesis of observations and regional climate models”

11:30 – 11:45  Kerstin Ebell et al. (University of Cologne) „Large Eddy Simulations at Ny-Ålesund with ICON-LEM”

11:45 – 12:00  Sandro Dahlke et al. (AWI-Potsdam) „Origin and characteristics of lower-tropospheric air masses above Ny-Ålesund during different flow conditions”
12:00 – 12:15  **Karoline Block et al. (University of Leipzig)**
“Analysis of feedback uncertainties contributing to the spread in Arctic warming amplification”

12:15 – 12:30  **Rosa Gierens et al. (University of Cologne)**
“Investigating mixed phase clouds using a synergy of ground based remote sensing measurement”

12:30 – 13:30  *Lunch (Cafeteria)*

13:30 – 15:00  **Poster session D – E** (see table below)

15:00 – 15:30  *Coffee break*

15:30 – 17:30  **General Assembly of (AC)^3, internal SAB meeting (in parallel)**

15:30 – 16:00  Report of Speaker and Scientific Coordinator
16:00 – 17:00  Introduction of new members, to be elected.
16:00 – 16:15  **Astrid Lampert** (TU Braunschweig)
16:15 – 16:30  **Emma Järvinen** (KIT)
16:30 – 16:45  **Johannes Schneider** (MPIC)
16:45 – 17:00  Awarding of the “(AC)^3 Distinguished Young Investigators Prize”

17:00  End of Conference
Additional Arctic related lectures

WEDNESDAY, 29 March (IUP Bremen, HS2)

09:00 – 13:00  General, introductory lectures (mainly for PhD students but interested audience and discussants are also welcome)

09:00 – 10:00  Lecture by Von P. Walden (Washington State University)  
“Physical characteristics and basic features of Arctic climate”

10:15 – 11:15 Lecture by Dave Bromwich (Ohio State University)  
“Contemporary climate change in the Arctic”

11:35 – 12:30 Lecture by Irina Gorodetskaya (University of Aveiro)  
“Antarctic and Arctic climate systems: Similarities and contrasts”
Poster Session A – C:

1. Water mass modification processes and water transport into the Arctic, R. Gerdes


10. Investigating variability and trend of three major phytoplankton groups during the period of rapid change based on modeling and satellite retrievals, S. N. Losa, S. Hellmann, M. A. Soppa, T. Dinter, J. Oelker, M. Losch, S. Dutkiewicz, A. Richter, V. Rozanov, J. P. Burrows, A. Bracher

11. Cloud masking for aerosol retrieval over the Arctic using AATSR time-series measurements, S. Jafariserajehlou, L. Mei, M. Vountas, V.V. Rozanov, J. P. Burrows


13. Cloud detection over snow and ice using synergy of MERIS/AATSR (OLCI/SLTSR), L. Istomina, H. Marks, G. Heygster

15. Characterizing the vertical presence of atmospheric black carbon in the Arctic region during spring and summer, M. Zanatta, H. Schulz, S. Wöhler, A. Herber

16. IR-Spectroscopy using a FT-Interferometer in emission and absorption mode and preparation for the Polarstern cruises PS106 and PS107, P. Richter, M. Palm, J. Notholt

17. Closure of Arctic Cloud Properties and Radiative Fluxes from ground-based observations, C. Barrientos V., H. Deneke, A. Macke


19. Daily lead map of the European Arctic from Sentinel-1 SAR scenes, D. Murashkin, G. Spreen, M. Huntemann

20. Experiences with an optimal estimation algorithm for surface and atmospheric parameter retrieval from passive microwave data in the Arctic, R. Scarlat, G. Heygster

21. Automatic detection of polar mesocyclones using satellite microwave humidity sounders, C. Melsheimer

22. Merged Total Water Vapour product from AMSU-B and AMSR-E data in the Arctic region, A. Triana Gómez, G. Heygster, C. Melsheimer


24. Microwave Radar/radiometer for Artic Clouds (MiRAC) for vertical profiling of ice and liquid water, M. Mech, L. Dirks, T. Doktorowski, S. Crewell, T. Rose, M. Stoff

25. Thin cloud characteristics over Ny-Ålesund, Spitsbergen and their radiative signatures from recent multi-year observations, A. Kautzleben, M. Maturilli, R. Neuber, C. Ritter


Poster Session D – E:

27. Influence of tropospheric circulation patterns on the winter middle and high-latitude mesosphere, Ch. Jacobi, D. Mewes

28. The Role of Intense Cyclones for Precipitation, Sea Ice and Snow Cover Distribution in the Nordic Seas, E.M. Knudsen, S. Crewell, K.I. Hodges, A. Rinke

30. Sea ice concentrations at 1 km resolution from combined optical and passive microwave data, V. Ludwig, L. Istomina, G. Spreen

31. Meridional temperature flux in the vicinity of the Arctic, D. Mewes, Ch. Jacobi

32. Characterization of the cloud conditions at Ny-Ålesund using sensor synergy and representativeness of the observed clouds across Arctic sites, T. Nomokonova, K. Ebell, U. Löhnert, M. Maturilli

33. Evaluating Svalbard’s exceptional geographical location from an Arctic surface temperature budget perspective, S. Dahlke, M. Maturilli

34. Thin sea ice thickness retrieval using L-band satellite sensors, C. Patilea, G. Heygster, M. Huntemann, G. Spreen

35. Multiyear sea ice concentration estimates using ASCAT and AMSR2 data, Y. Ye, G. Spreen, M. Shokr, G. Heygster


38. Changes in Arctic sea ice dynamics observed by satellites, A. Kazlova, G. Spreen


40. Spatiotemporal patterns of snowfall in the Arctic, B. Segger, A. Rinke, S. Crewell, E. Knudsen, P. Rostosky, G. Spreen

41. Microphysical Properties and Radiative Impact of an intense biomass burning event in Ny-Ålesund, C. Ritter, C. Böckmann, R. Neuber, M. Maturilli


43. Evaluation of cloud properties in the Arctic in the global aerosol-climate model ECHAM6-HAM2 using the COSP satellite simulator, J. Kretzschmar, J. Quaas

44. Fine Scale Simulations of Arctic Cloud with an Improved Scheme for Mixed-phase Microphysics, J. Chylík, R. Neggers
45. Atmospheric Correction of Sea Ice Concentration Retrieval of 89 GHz AMSR-E Observations, J. Lu, G. Heygster, G. Spreen, C. Melsheimer

46. Ridge detection from different spatial resolution SAR imagery, T. Zhu, G. Spreen, W. Dierking, G. Heygster, F. Li, Y. Zhang, S. Zhang

47. Comparison of meteorological conditions in Svalbard fjords: Hornsund and Kongsfjorden, M. Cisek, P. Makuch, T. Petelski

48. Influences of surface heterogeneities on Arctic low-level cloud entrainment by shear – A motivation and a first test, R. Rauterkus

49. A coupled large-eddy simulation sea ice model for simulating Arctic air mass transformation, A. Dimitrelos, A. M. L. Ekman, R. Caballero


How to get to the conference locations?

The 1st \((\text{AC})^3\) Science Conference will take place at the **University of Bremen, Institute for Environmental Physics (IUP)** (http://www.iup.uni-bremen.de/eng/). Detailed travel information can be found [here](http://www.iup.uni-bremen.de/eng/).

**Address:** Institute of Environmental Physics  
University of Bremen  
Otto-Hahn-Allee 1  
D-28359 Bremen, Germany
**Arrival:**

- **If you come by train,** the trip lasts:
  - About 35 min from Bremerhaven (each hour)
  - About 3h from Köln (each hour)
  - About 3h50 from Potsdam (2 connections in Berlin, Hamburg)
  - About 4h10 min from Leipzig (each 2 hours)

- **If you come by car,** there are enough parking facilities in front of the IUP building

- **If you come by plane,** the easiest way is to land at Bremen Airport and take the tram No. 6 to “Universität” You need to get off at the stop "Universität-Süd". Our building then is just across the street. It is marked "NW1" with big letters on top. In front of the terminal building, also taxis are waiting.

**Ice breaker on Sunday, 26 March 2017**

Location: Café Unique  
Enrique-Schmidt-Straße 7  
28329 Bremen  
cafe-unique.de

**Evening reception on Monday, 27 March 2017**

Location: Haus der Wissenschaft  
Sandstraße 4/5  
28195 Bremen  
www.hausderwissenschaft.de