Autumn (AC)³ General Assembly (GA)

21\textsuperscript{th} – 23\textsuperscript{th} November, 2022

Klimahaus Bremerhaven,
Am Längengrad 8, 27568 Bremerhaven, Germany

Agenda PART I - Science

Scientific session talks will have a length of 15 min + 5 min discussion, whereas the CCA overview talks will have a length of 20 min + 10 min discussion. (AC)³ is going to cover all coffee and lunch breaks during the conference and non-alcoholic drinks and food during dinner via the central project Z01. Child care would be covered by (AC)³ Gender funds.

Meeting Zoom link: https://tinyurl.com/3pz694nk

MONDAY, 21 November 2022

13:30  Welcome

13:40 – 15:00  Scientific Session I (Room Kyoto) – Aerosol particles in the Arctic
Chair: Zerlina Hofmann (AWI-B)

13:40 – 14:00  Sebastian Zeppenfeld (TROPOS):
“Marine Carbohydrates in the Arctic – From the Ocean to the Atmosphere”

14:00 – 14:20  Moritz Zeising (AWI-B):
“Organic aerosol precursors from the Arctic Ocean - coupled ecosystem ocean modelling compared to in-situ and satellite observations”

14:20 – 14:40  Ansibel Leon (TROPOS):
“Modelling the impact of primary marine organic aerosol on clouds”

14:40 – 15:00  Zsofia Juranyi, hybrid format (AWI-B):
“Black Carbon properties in the Arctic from a decade of spring and summertime aircraft measurements”
15:00 – 15:30  
**Coffee break**

15:30 – 17:00  
**CCA Breakout Sessions — in parallel**

- 15:30 – 16:15  
CCA 1 (Room Kyoto) & CCA 4 (Room Bali)

- 16:15 – 17:00  
CCA 2 (Room Kyoto) & CCA 3 (Room Bali)

18:00 – 19:00  
**Dinner (Finger food)**

19:00 – 20:00  
Evening Talk by Helene and Thomas Hoffmann from the Cryosity project on “Art and Science”

**TUESDAY, 22 November 2022**

09:00 – 10:00  
**Scientific Session II (Room Kyoto) — Satellite observations & clouds**

*Chair: Nina Mahenrdl (UNI-L)*

- 09:00 – 09:20  
**Carola Barrientos-Velasco (Tropos):**
  “Cloud Radiative Effect during MOSAiC based on Polarstern and CERES observations”

- 09:20 – 09:40  
**Imke Schirmacher (UNI-K):**
  “Does CloudSat over- or underestimate Arctic low level cloud occurrences from airborne remote sensing observations?”

- 09:40 – 10:00  
**Kamesh Vinjamuri (Uni-B):**
  “Arctic Cloud optical properties observed from space”

10:00 – 12:00  
**Poster Session I (Room Bali)**

Posters according to list

10:30 – 11:00  
**Coffee break (parallel to poster session)**

12:00 – 13:00  
**Lunch break**
13:00 – 14:10 Scientific Session III (Room Kyoto) – Atmospheric Radiation & Turbulence
Chair: Giovanni Chellini (UNI-K)

13:00 – 13:30 CCA 2 – Christof Lüpkes (AWI-B):
“Near-Surface processes”

“Tethered balloon-borne measurements in the cloudy ABL: Overview and first results”

13:50 – 14:10 Hannes Griesche (TROPOS):
“Low-level Arctic clouds can stay under the radar – Challenging determination of their impact on the surface radiation budget”

14:10 – 15:00 Scientific Session IV (Room Kyoto) – Air mass properties & transport
Chair: Melanie Lauer (UNI-K)

14:10 – 14:40 CCA 4 – Benjamin Kirbus (UNI-L):
“Air mass transport and transformation”

14:40 – 15:00 Bianca Zilker (UNI-B):
“Investigation of weather conditions and BrO during ozone depletion events between 2010 and 2021 in Ny-Ålesund”

15:00 – 15:30 Coffee break

15:30 – 16:30 Scientific Session V (Room Kyoto) – Sea Ice
Chair: Hannah Niehaus (UNI-B)

15:30 – 15:50 Janna Rückert (UNI-B) & Andreas Walbröl (UNI-K):
“Recent atmospheric and sea ice insights from Polarstern expedition PS131 in the Marginal Sea Ice Zone”

15:50 – 16:10 Ran Tao (AWI-B):
“Availability and variability of light under the Arctic sea ice

16:10 – 16:30 Alexander Mchedlishvili (UNI-B):
“Pan-Arctic Sea Ice-Atmosphere Drag Coefficients Derived from ICESat-2 Topography Data”
16:30 – 17:00  CCA 1 – Olivia Linke *(UNI-L)*
“Collaborative *(AC)*³ results on the lapse-rate feedback”

17:00 – 17:10  **Equal Opportunity Board report 2022 (Room Kyoto)**
Rosa Gierens *(UNI-K)*

**WEDNESDAY, 23 November 2022**

09:00 – 11:00  **Poster Session II (Room Bali)**
Posters according to list

10:30 – 11:00  **Coffee break (parallel)**

11:00 – 12:10  **Scientific Session VI (Room Kyoto) – Cloud process studies**
*Chair: Imke Schirmacher (UNI-K)*

11:00 – 11:30  CCA 3 – Vera Schemann *(UNI-K)*:
“Arctic mixed-phase clouds”

11:30 – 11:50  Nina Maherndl *(UNI-L)*:
“Observations of riming in arctic mixed-phase clouds during HALO-(AC)³”

11:50 – 12:10  Giovanni Chellini *(Uni-K)*:
"Does turbulence enhance ice-particle growth by aggregation and riming in Arctic low-level mixed-phase clouds? Observational evidence from Ny-Alesund"

12:10 – 12:30  **Closing PART I (Room Kyoto) – Manfred Wendisch**

12:30 – 14:00  **Lunch break**
Poster Session I

#01  E. Akansu et al. (A02): Determining Atmospheric Boundary Layer Height in Polar Night Using Tethered Balloon-Borne Data from MOSAiC

#02  L. Aue et al. (D03): New Insights into Cyclone Impacts on Sea Ice in the Atlantic Sector of the Arctic Ocean in Winter

#03  A. Walbröl et al. (B05): Combining a low with a high frequency microwave radiometer to retrieve atmospheric water vapour and liquid water path

#04  J. Hachmeister et al. (associated): Trend analysis of XCH4 in the Arctic

#05  F. Heukamp et al. (D04): Control of Varying Atmospheric Forcing Mechanisms on the Barents Sea Atlantic Water Inflow

#06  M. Klingebiel et al. (B03): Airborne Remote Sensing Measurements of Liquid-Phase Cloud Properties over the Open and Sea Ice-Covered Arctic Ocean

#07  M. Lauer et al. (E04): Influence of Atmospheric Rivers and associated weather systems on precipitation in the Arctic

#08  L. Mei et al. (B01/B02): Tropospheric aerosol optical thickness trend above the ocean in the Arctic during 1981-2020

#09  J. Michaelis et al. (A03): Turbulence measurements during HALO-(AC)³ and AFLUX in the atmospheric boundary layer over the Arctic MIZ

#10  H. Niehaus et al. (C01): Melt Pond Fractions in the Arctic from Different Perspectives

#11  N. Risse et al. (associated): Evaluation of TELSEM2 using observed sea ice emissivities up to 340 GHz in preparation for the Ice Cloud Imager (ICI)

#12  P. Saavedra Garfias (B07): Studying the Influence of Sea Ice Lead Fraction on Wintertime Cloud Macro- and Microphysical Properties During the MOSAiC

#13  M. Schäfer et al. (A03): First Analysis and Potential of Thermal Infrared Imagery measured with VELOX during HALO-(AC)³

#14  N. Schnierstein et al. (A01): A year in LES: Standardized daily high-resolution Large Eddy Simulations of the Arctic boundary layer during the MOSAIc drift

#15  B. Basudev et al. (B02): Spring and summertime aerosol optical depth variability over Arctic snow and ice from space-borne observations and GEOS-Chem 3-D model simulations.

#16  S. Tiedeck et al. (E04): Atmospheric River during MOSAiC in Mid-November 2019: Transformation Processes and Impact on the Surface Energy Budget

#17  G. Wallentin et al. (associated): Sensitivity Studies on Arctic Multilayer Clouds
Poster Session II

#18  S. Becker et al. (A03): **Airborne measurements of the surface cloud radiative effect in the Fram Strait during different conditions**

#19  K. Ebelt et al. (E02): **Multi-year precipitation characteristics based on in-situ and remote sensing observations at the Arctic research site Ny-Ålesund, Svalbard**

#20  L. Heizmann et al. (associated): **Water vapour profile retrieval over Ny-Ålesund (Svalbard) using Fourier transform emission spectroscopy**

#21  Z. Hofmann et al. (C04): **Subduction as Observed at a Submesoscale Front in the Marginal Ice Zone in Fram Strait**

#22  I. Höschel et al. (D01): **Influence of variations in sea ice concentration on Arctic climate in an ensemble of idealized simulations with ICON**

#23  E. Jäkel et al. (C01): **Performance of the revised surface albedo scheme of HIRHAM-NAOSIM**

#24  D. Ji et al. (E02): **Ground-based remote sensing of aerosol properties using high resolution infrared emission and Lidar observations in the high Arctic**

#25  B. Kirbus et al. (associated): **Airborne observation of air mass transformations during HALO-(AC)3**

#26  T. Kiszler et al. (E03): **Studying the representation of macro- and microphysical cloud properties at Ny-Ålesund in ICON-LEM**

#27  W. Körtke et al. (C04): **Circulation Changes in the Atlantic Water derived from Transient Tracers in the Arctic Ocean**

#28  C. Lüpkes et al. (A03): **A package of momentum and heat transfer coefficients for the stable atmospheric surface layer**

#29  S. Mehrdad et al. (D01): **Sensitivity of Arctic large-scale circulation to regional radiative forcing over Europe using Deep Learning**

#30  P. Echevarria et al. (B01/B02): **Satellite Cloud fraction over the polar regions on artificial intelligence Methods**

#31  M. Moser et al. (associated): **In-situ measurements of low-level clouds over the sea ice and the open ocean in the Arctic during spring and summer**

#32  H. Müller et al. (associated): **Representation of Arctic mixed-phase clouds in ECMWF forecasts during A CLOUD**

#33  J. Röttenbacher et al. (associated): **Radiative Effect of Arctic Cirrus - Observations and Modelling**
(AC)³ Planning Meeting for phase III

23rd – 25th November, 2022

Klimahaus Bremerhaven, Room Kyoto
Am Längengrad 8, 27568 Bremerhaven, Germany

Agenda PART II – Planning Meeting for PIs (and Postdocs)

For each project there will be a time slot of 10 min for a short presentation according to the distributed template ahead. All slides (pdf) will be collected before the meeting. Presentations should include a specific hypothesis with detailed scientific questions, used methods, milestones, and collaborations, as well as a confirmation (or adjustment) of proposed project funding. Please be referred to funding overview provided before the meeting. Slides should be the basis for pre-proposal which is due on 1 Dec 2022. After each Cluster there will be 15 min available for Cluster discussions.

WEDNESDAY, 23 November 2022

14:00 – 15:30  General part of the proposal – Manfred Wendisch
General strategy, overview on finished and new projects, Cluster structure and CCAs

15:30 – 16:00  Coffee break

16:00 – 17:00  CCA 2 in phase III – Surface processes

19:00  Joint Dinner at Villa Seebeck, Deichstraße 15, 27568 Bremerhaven (self-payer)
THURSDAY, 24 November 2022

09:00 – 10:15 Cluster E

  09:00 – 09:10  E01 – PLs Neggers, Quaas
  09:10 – 09:20  E02 – PLs Dahlke, Ebell, Notholt
  09:20 – 09:30  E03 – PLs Schemann, Schnitt
  09:30 – 09:40  E04 – PLs Crewell, Rinke
  09:40 – 09:50  E05 – PLs Kalesse-Los, Maahn
  09:50 – 10:00  E06 – PLs Bösch, Quaas
  10:00 – 10:15  Cluster E discussion – Susanne Crewell

10:15 – 10:45 Coffee break

10:45 – 11:30 Cluster A

  10:45 – 10:55  A01 – PLs Macke, Neggers
  10:55 – 11:05  A02 – PLs Siebert, Wendisch
  11:05 – 11:15  A03 – PLs Herber, Schäfer
  11:15 – 11:30  Cluster A discussion – André Ehrlich

11:30 – 12:35 Cluster B

  11:30 – 11:40  B01 – PLs Burrows, Vountas
  11:40 – 11:50  B02 – PLs Bösch, Vountas
  11:50 – 12:00  B03 – PLs Crewell, Ehrlich, Deneke
  12:00 – 12:10  B04 – PLs Herber, van Pinxteren, Pöhlker
  12:10 – 12:20  B05 – PLs Ebell, Spreen
  12:20 – 12:35  Cluster B discussion – Andreas Macke & Gunnar Spreen

12:35 – 13:30 Lunch break

13:30 – 14:15 Cluster C

  13:30 – 13:40  C01 – PLs Jäkel, Nicolaus, Spreen
  13:40 – 13:50  C03 – PLs Bracher, Richter
  13:50 – 14:00  C04 – PLs Kanzow, Walter
  14:00 – 14:15  Cluster C discussion – Astrid Bracher
14:15 – 15:00  Cluster Z

14:15 – 14:30  Z04 – PLs Handorf, Quaas, Schemann
14:30 – 15:00  INF – PL Buschmann

15:00 – 15:30  Coffee break

15:30 – 16:35  Cluster D

15:30 – 15:40  D01 – PLs Handorf, Jacobi, Quaas
15:40 – 15:50  D02 – PLs Heinold, Kretzschmar
15:50 – 16:00  D03 – PLs Rinke, Spreen
16:00 – 16:10  D04 – PLs Kanzow, Salzmann
16:10 – 16:20  D05 – PL Kretschmer
16:20 – 16:35  Cluster D discussion – Annette Rinke

16:35 – 17:35  CCA 1 in phase III – Lapse rate feedback

FRIDAY, 25 November 2022

09:00 – 10:00  CCA 3 in phase III – Arctic mixed-phase clouds
10:00 – 11:00  CCA 4 in phase III – Air mass transformation & transport
11:00 – 11:30  Closing
11:30 – 12:00  Coffee break & snacks
12:00  End of meeting
(AC)³ PhD Workshops & Retreat connected to the fall General Assembly 2022

23 – 25 November 2022

Klimahaus Bremerhaven, Room Bali
Am Längengrad 8, 27568 Bremerhaven, Germany

Agenda PART II – PhD workshops

WEDNESDAY, 23 November 2022

14:00  Workshop on ‘Science Communication’
       Led by Adam Polczyk,
       Press and Communications department, University of Cologne
14:00  Theory (introduction and best practise)
15:30  Coffee break
16:00  Hands-on (exercises, own examples)
18:00  End of Workshop
19:00  Joint Dinner at Villa Seebeck, Deichstraße 15, 27568 Bremerhaven (self-payer)
THURSDAY, 24 November 2022

9:00  Workshop on ‘Getting there – Career Development for Natural Scientists’

*Led by Dr. Juliane Handschuh,*

*Soft Skill Trainer for Scientists*

- Assess your current situation, including your skills and capabilities, personal set of values and interests.
- Develop a precise career development plan including SMART career goals. Project management techniques are applied to plan and manage a successful career.
- Successfully achieve your career goals and develop your individual future.

10:15  Coffee break

12:30  Lunch break

15:00  Coffee break

17:00  End of Workshop

FRIDAY, 25 November 2022

9:00  Open Space event

- self-organized discussion rounds with different conversations
- Topics collected in advance and on-site
- Scientific or non-scientific
- poster to document output of discussions

11:30  Coffee break & snacks

12:00  End of event