



(AC)³ General Assembly

March 6 –8, 2018

Leibniz Institute for Tropospheric Research (TROPOS) and

Leibniz-Institut für Oberflächenmodifizierung (IOM),
Permoserstr. 15, 04318 Leipzig (Wissenschaftspark)

Agenda

TUESDAY, 6 March (Lecture room, IOM building)

13:00 – 15:30 Plenary Session

13:00 – 13:30 Welcome and Introduction – *Manfred Wendisch*

13:30 – 14:00 Multi-Platform Observations of Arctic Clouds during the
ACLOUD/PASCAL Field Campaigns – *Wendisch, M. et al.*

14:00 – 14:30 Synoptic situation overview during the field campaigns ACLOUD and
PASCAL around Svalbard May-June 2017 – *Knudsen, E. M. et al.*

14:30 – 15:00 Cloud variability around Kongsfjord, Svalbard, assessed with high
resolution observations and modelling – *Ebell, K. et al.*

15:00 – 15:30 Airborne turbulence measurements in the boundary layer over the
Arctic marginal sea ice zone during ACLOUD – *Chechin, D. et al.*

15:30 – 16:15 Coffee break

16:15 – 17:45 Plenary Session

16:15 – 16:45 The AOT trend analysis over the Arctic ocean during the past decades
– *Mei, L. et al.*

16:45 – 17:15 Mechanisms for the polar low formation in January over the Nordic
Seas using Arctic System Reanalysis – *Radovan, A. et al.*

17:15 – 17:45 Multi year airborne mobile aerosol lidar observations of Arctic
boundary layer properties and clouds– *Neuber, R. et al.*

WEDNESDAY, 7 MARCH (Lecture room, IOM building)

09:00 – 10:30 Plenary Session

09:00 – 09:30 Roles of Advection of Atlantic Water and Upper Ocean Mixing for Arctic Amplification in CMIP5 Models– *Metzner, E. et al.*

09:30 – 10:00 Towards a merged atmospheric total water vapour retrieval from AMSU-B and AMSR-E satellite microwave radiometers in the Arctic Region – *Goméz, A. T. et al.*

10:00 – 10:30 Exploring model hierarchies for large-eddy simulations of observed Arctic cold air outbreaks – *Schemann, V. et al.*

10:30 – 11:00 Coffee break

11:00 – 12:30 Plenary Session

11:00 – 11:30 A consistent long-term multi-sensor dataset of tropospheric BrO over the Arctic from UV-Vis satellite observations – *Bougoudis, I. et al.*

11:30 – 12:00 Horizontal variability of the surface radiation balance and cloud radiative forcing in the springtime Arctic – *Stapf, J. et al.*

12:00 – 12:20 A possible contribution to $(AC)^3$ as a new Associated Member – *Cedrik Ansorge (Uni Cologne, IGM)*

12:20 - 12:30 Arctic activities iCUPE-ERA-PLANET, PEEEX, GlobalSMEAR by the University of Helsinki - Institute for Atmospheric and Earth System Research (INAR) - *Hanna K. Lappalainen (Uni Helsinki)*

12:30 Group Photo

12:30 – 13:30 Lunch

13:30 – 15:30 Topical Sessions

Topical Session I (Chair: Evi Jäkel)– Radiation aspects (Seminar room, TROPOS)

Aerosol

Donth, T., et al. - Radiative forcing of black carbon in snow and in the atmosphere

Jafariserajehelou, S. et al. - Cloud masking for aerosol retrieval over the Arctic using AATSR/SLSTR time-series measurements

Mei et al. - Aerosol optical thickness derived from passive remote sensing over the Arctic regions

Topical Session II (Chair: Dmitry Chechin) – Dynamics and turbulence (Seminar room, Chemistry new building, TROPOS)

Egerer, U. et al. - A new setup for combined radiation and turbulence measurements on a tethered balloon in the cloudy central Arctic

Chylik, J. and Neggers, R. - Comparing LES of Arctic boundary layers against PASCAL

Mewes, D. et al. - Analyzing heat transport into the Arctic using Self-Organizing Maps

Topical Session III (Chair: Manuela van Pinxteren) – Microphysics and chemistry (Seminar room, Chemistry old building, TROPOS)

Aerosols in situ I

Zeppenfeld, S. - Analysis of marine carbohydrates in sea water and aerosols after desalination via electrodialyse

Zeppenfeld, S/ - Concentrations and possible marine sources of CCN and INP
Hartmann, M. in the Arctic

Hartmann, M. - A 500 year record of Ice Nucleating Particles in the high Arctic

Eppers, O. - In-situ observation of number density, size distribution, and chemical composition of arctic aerosol particles and trace gas concentrations in the arctic boundary layer and the free troposphere during ACLOUD

15:30 – 16:00 *Coffee break*

16:00 – 18:00 Topical Sessions

Topical Session I (Chair: Evi Jäkel)– Radiation aspects (Seminar room, TROPOS)

Surface

Vountas, M. et al., N. Khosravi - Long-term changes in TOA reflectances above the Arctic circle from a multi-sensor perspective

Pohl, C. et al. - Bidirectional reflection factors of arctic snow surface types: simulation and measurements

Jäkel, E. et al. - How well can the sea ice albedo scheme of HIRHAM/NAOSIM reproduce the surface albedo variability during ACLOUD?

Soppa, M. A. et al., Vasileios Pefanis - Assessing the influence of coloured dissolved organic matter on the energy budget of surface waters in the Laptev Sea

Topical Session II (Chair: Dmitry Chechin) – Dynamics and turbulence (Seminar room, Chemistry new building, TROPOS)

Rostosky, P. et al. - Modelling the passive microwave emission of snow on Arctic sea ice - A case study using N-ICE2015 data

Chechin, D. et al. - Clear-sky cooling during polar night over the sea ice in the Arctic: The role of leads and wind speed

Topical Session III (Chair: Manuela van Pinxteren) – Microphysics and chemistry (Seminar room, Chemistry old building, TROPOS)

Aerosols in situ II

Mertes, S. - Aerosol properties of cloud particle residues of low and mid-level arctic clouds measured during ACLOUD

Aerosols modeling

Schacht, J. - Sources and transport pathways of aerosol to the Arctic – an aerosol climate model evaluation study

19:00 Joint dinner at “Thüringer Hof” (self-payer)

THURSDAY, 8 MARCH

09:00 – 10:30 Topical Sessions

Topical Session I (Chair: Evi Jäkel)– Radiation aspects (*Seminar room, TROPOS*)

Clouds I

Barrientos, C. et al. - Spatio-temporal variability of global transmittance during the Arctic POLARSTERN expedition 106.1 ice floe period.

Barrientos, C. et al. - Influence of cloud radiative effects over the Arctic surface during summer

Jäkel, E. et al. - 3D-radiative smoothing and its impact on the solar cloud radiative forcing

Topical Session II (Chair: Dmitry Chechin) – Dynamics and turbulence (*Seminar room, Chemistry new building, TROPOS*)

Chylik, J. and neggers, R. - Constraining fine-scale simulations of Arctic cold air outbreaks with aircraft data

Nomokonova, T. et al. - Statistics on clouds and their relation to thermodynamic conditions at Ny-Ålesund using ground-based sensor synergy

Lelli, L. et al. - Seasonal changes of cloud properties as function of meteorological and surface properties

Topical Session III (Chair: André Ehrlich) – Microphysics and chemistry (*Seminar room, Chemistry old building, TROPOS*)

Clouds

Ehrlich, A. - Orientated ice crystals in mixed-phase clouds observed by specular reflection in fish-eye camera images

Ehrlich, A. - Characterization of the ice phase in Arctic mixed-phase clouds during ACLOUD

Ruiz Donoso, E. - Small-scale horizontal distribution of cloud thermodynamic phase of Arctic mixed-phase clouds derived from airborne imaging spectral cloud reflectivity observations during ACLOUD

10:30 – 11:00 *Coffee break*

11:00 – 12:30 Topical Sessions

Topical Session I (Chair: Evi Jäkel)– Radiation aspects (*Seminar room, TROPOS*)

Clouds II

Schäfer, M. et al. - Parameterization of three-dimensional radiative effects using autocorrelation functions derived from imaging spectrometry

Barrientos, C. et al. - Surface radiative closure studies of central summer Arctic: A comparison between Satellite, Airborne and surface observations summer.

Topical Session III (Chair: André Ehrlich) – Microphysics and chemistry (*Seminar room, Chemistry old building, TROPOS*)

Remote sensing

Griesche, H. - Benefits of operating a stabilized cloud radar onboard Polarstern and using it for Cloudnet processing.

Griesche, H. - Heterogeneous ice formation at high cloud top temperatures (>-8C) based on combined lidar/radar observations

12:30 **Closing Session (IOM building)**
Major outcome of topical sessions
End of GA

Notes for the speakers:

- During this GA we would like to start and open discussions around several ideas and science topics related to specific paper plans within the (AC)³ team.
- We do not want to present complete and final papers.
- Depending on the actual status of your work you may adjust the content of your talks and the following discussion.
- Internet access will be available at TROPOS locations only.

Meeting Location

The (AC)³ GA meeting will take place at the **Leibniz Institute for Tropospheric Research (TROPOS)** and the **Leibniz Institute of Surface Engineering (IOM)** in Leipzig <http://www.wissenschaftspark-leipzig.de/de/gelaende.html>).

Leibniz-Institut für Troposphärenforschung e.V.
Permoserstraße 15
04318 Leipzig



Joint dinner location

Thüringer Hof zu Leipzig
Burgstraße 19,
04109 Leipzig

www.thueringer-hof.de

