2nd ARTofMELT 2023 Open Science Conference

April 23-25, 2025 at Stockholm University

supported by the Bolin Centre for Climate Research, the International Arctic Science Committee (IASC) and the International Meteorological Institute (IMI)

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Goals of the workshop:

1. Present and discuss new results from the ARTofMELT expedition
2. Planning and discussion of joint modeling activities
3. Planning and discussion of joint publications
4. Working on ARTofMELT overview paper
5. Have fun!



Zoom Link for all days:

https://stockholmuniversity:zoom:us/j/66243411381

Locations:

Day I-II: SU Konferenslokal Albano hus 1, plan 6 – ”Pärlan” (https://g:co/kgs/qtbjv9U)

Day III: Högbomsalen, Geohuset (3rd floor, U-house), Frescati Campus: Second green building straight ahead when exiting the T-bana station Universitet

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Preliminary program:

Wednesday (23 April 2025):

12:00 – 12:50 **Lunch & registration**

12:50 - 14:30 **Session 1: Meteorology: large scale dynamics, boundary layer & clouds**

- 12:50 – 13:00 Welcome & logistics (Michael & Paul)
- 13:00 – 13:15 Michael Tjernström - Do you remember? An ARTofMELT Warm Up
- 13:15 – 13:30 Sonja Murto: *The large-scale meteorological setting during ARTofMELT and the melt onset: Was the melt late - and why?*
- 13:30 – 13:45 Tuomas Naakka: *Dynamic and thermodynamic processes affecting atmospheric moisture and its transport during ARTofMELT*
- 13:45 – 14:00 Ian Brooks: *Boundary layers and clouds: turbulence structure from Doppler radar and lidar*
- 14:00 – 14:15 Heather Guy: *Cloud and atmospheric retrievals from ship-based remote sensing during ARTofMELT: Progress and challenges*
- 14:15 – 14:30 Discussion

14:30 – 15:00 **Fika**

15:00 – 17:00 **Session 2 – Meteorology: Meteorology: More clouds and modeling**

15:00 – 15:15 Lloyd Villanueva: *Identifying Arctic multilayer cloud occurrence during ARTofMELT using radiosonde and radar data*

15:15 – 15:30 Gunilla Svensson & Luise Schulte - *Challenges in cloud modeling*

15:30 – 15:45 Michail Karalis: *Lagrangian single-column modeling of Arctic airmass transformation*

15:45 – 16:00 Timo Vihma: *Wind forcing on sea ice drift in the Fram Strait*

16:00 – 16:15 Ben Kopec & Jeff Welker: *ARTofMELT moisture sources and transport: linking isotopic measurements on the Oden and Zeppelin Observatory in Svalbard*

16:15 – 16:30 Abhay Devasthale: *Arctic climate change observed from satellites and its connection to the ARTofMELT objectives*

16:30 – 17:00 Joint discussion session 2

<u>Thursday (24 April 2025):</u>

08:30 – 10:00 **Session 3 – Sea ice -> Aerosols**

08:30 – 08:45 Leif Eriksson: *Sea ice dynamics, a status update*

08:45 – 09:00 Bin Cheng: *Modeling the Onset of Snow Melt in the Arctic Ocean*

09:00 – 09:15 Falk Pätzold - *How is the helipod data doing?*

09:15 – 09:30 Paul Zieger: *On the properties of natural aerosol sources analyzed during ARTofMELT*

09:30 – 09:45 Julia Kojoj: *On the transition in the aerosol population*

09:45 – 10:15 Joint discussion session 3

10:15 – 10:45 **Fika**

10:45 – 12:30 **Session 4 – Aerosol physics and modeling**

10:45 – 11:00 Lea Haberstock: *Fog during ARTofMELT*

11:00 – 11:15 Theresa Mathes: A*tmospheric particle fluxes in the high Arctic across three surface types*

11:15 – 11:30 Jessie Creamean & Camille Mavis: *Size-resolved and total aerosol INP*

11:30 – 11:45 Roman Pohorsky: *Influence of free tropospheric aerosols on the microphysical and radiative properties of a coupled low-level cloud in the central Arctic: a case study from the ARTofMELT expedition*

11:45 – 12:00 Hannah Frostenberg: *Which aerosols are necessary to form ice in a warm Arctic mixed-phase cloud?*

12:00 – 12:30 Joint discussion session 4

12:30 – 13:30 **Lunch**

13:30 – 15:00 **Session 5 – Aerosol chemistry**

13:30 – 13:45 Diego Fellin: *Chemical composition and microphysical properties of Aitken- and accumulation mode particles via offline and online analysis*

13:45 – 14:00 Lotte Dyrholm Thomsen: *Chemical composition of Arctic aerosols*

14:00 – 14:15 Nicolas Fauré: *Chemical characterization of seawater and aerosols using synchrotron-based and other analytical techniques*

14:15 – 14:30 Tina Santl-Temkiv: *Bioaerosol concentrations, types, and source tracking*

14:30 – 15:00 Joint discussion session 5

15:00 – 15:30 **Fika**

15:30 – 17:00 **Session 6 - Atmospheric chemistry**

15:30 – 15:45 Cort Zang: *The chemical fate of dimethylsulfide in the springtime Arctic marine atmosphere*

15:45 – 16:00 Samantha Rush: *The carbonate system in Arctic sea ice during the spring melt transition*

16:00 – 16:15 Nicole June: *Regional Modeling of Aerosols and DMS during ARTofMELT*

16:15 – 16:45 Joint discussion session 6

16:45 – 17:30 **Screening of ARTofMELT documentary**

Friday (25 April 2025)

(closed session for expedition members only)