



SWEDISH POLAR  
RESEARCH SECRETARIAT  
POLARFORSKNINGSSEKRETARIATET



Bolin Centre and Swedish Polar Research Secretariat

mini-symposium on

# Arctic air-mass intrusions and the onset of Arctic ocean sea-ice melt

Tuesday 11 October in the De Geer hall

(Geoscience building Y) @ 1300 -17.00



Every year the Arctic sea ice starts melting in spring and the date when this happens has follow-on consequences for the length of the melt season and for how much ice remains at the end of summer, things that ultimately has consequences for climate and humans but is also altered by climate change.

The processes that trigger the onset of the melt are poorly understood, partly because there are very few in-situ observations from when it happens. One plausible hypothesis is that a triggering factor is intrusions of warm and moist air from south, altering the surface energy budget in several ways, but very few observations exist to support this. Most icebreaker assisted field campaigns are at the end of summer, when it is easier to navigate in the ice, but in spring of 2023 the ARTofMELT (Atmospheric rivers and the onset of sea-ice melt) program will take the Swedish research icebreaker Oden up into the Arctic sea ice already in May and June, with an aim to improve the understanding of when and how melt actually starts. As a part of the preparations and planning we invite to a mini-symposium on this theme together with the Bolin Centre.

## Program:

13.00-13.10 Welcome from the Bolin Centre

13.10-13.30 Background and framework of ARTofMELT (Michael Tjernström, MISU & Paul Zieger, ACES)

13.30-14.00 The role of warm-air intrusions for the surface energy budget, near surface temperatures and sea-ice evolution in the Arctic (Sonja Murto, MISU)

14.00-14.30 Intrusions of warm and moist air - and aerosols: Some results from the MOSAiC expedition (Julia Schmale, EPFL, Switzerland)

14.30-15.00 Coffee break

15.00-15.30 Following warm air intrusions in models – results from the YOPP/TOP during the MOSAiC campaign (Gunilla Svensson, MISU)

15.30-16.00 Ny-Ålesund – a supersite to study what is coming in and out of the high Arctic (Radovan Krejci, ACES)

16.00-16.30 Warm air intrusions into the Arctic: Atmospheric patterns and water isotopic forensics (Jeff Welker, University of the Arctic & the universities at Oulo and Anchorage)

16.30-17.00 Open discussion