

AWI-IUP BLOCK SEMINAR AGENDA

"The (delayed) Antarctic climate change:
Insights from atmosphere, ocean and ice and from the
coupled system"

22 September 2022

13:00 – 17:00,
Bremerhaven

Background:

In the last decades we have seen profound changes in the wind field over the Southern Ocean and widespread warming of deep and bottom waters as well as freshening of surface waters around Antarctica. At the same time changes in sea ice extent and atmospheric temperatures are less clear. In this context we are inviting contributions from observations, modeling and theory of Southern Ocean / Antarctic change focusing on describing and interpreting these recent changes (or the surprising lack thereof) in sea ice, atmosphere and ocean and in the coupling between these compartments. We explicitly also invite studies assessing near-future changes of the Southern Ocean / Antarctic environment until the end of this century.

Location:

In-person: **Klimahaus**, Am Längengrad 8, 27568 Bremerhaven,
accompanied by coffee and some snacks
On-line: Link will be sent around via email.

Registration:

Please fill in the list to help us with catering planning.
<https://terminplaner4.dfn.de/G6E9UDIkBtVXHas2>

13:00 – 13:05

Torsten Kanzow

Introduction

13:05 – 13:20

Christian Haas and Stefanie Arndt

Platelet ice - the missing link between ice shelf melt, ocean freshening,
and sea ice resilience in Antarctica?

13:20 – 13:35

Stefanie Arndt, Mara Neudert, Christian Haas

Is the Antarctic sea ice already sweating? – A glimpse into recent in-situ
sea ice and snow data in the Weddell Sea.

13:35 – 13:50

Christian Melsheimer, Gunnar Spreen

Remote Sensing of Multiyear Sea Ice in the Antarctic.

13:50 – 14:05	Mark Weber Impact of Antarctic ozone hole on southern hemispheric weather and circulation: an overview.
14:05 – 14:20	Alexander Haumann Sudden Antarctic sea ice loss emerges from systematic multi-decadal regime changes in the ice-ocean system. (virtual attendance)
14:20 – 14:35	Alexander Mchedlishvili Weddell Sea polynya analysis using SMOS–SMAP apparent sea ice thickness retrieval" with
14:35 – 15:05	Coffee break
15:05 – 15:20	Petru Vaideanu, Gerrit Lohmann, and Christian Stepanek Observed and simulated coupled Atlantic sea surface temperature - Arctic & Antarctic sea ice concentration patterns linked to Atlantic meridional overturning circulation
15:20 – 15:35	Lavinia Patara, Jan Klaus Rieck, Malin Ödalen, Toste Tanhua, Andreas Oschlies, Judith Hauck Physical drivers of the Southern Ocean carbon uptake in the past 60 years in eddyng ocean model simulations. (virtual attendance)
15:35 – 15:50	Markus Janout, Mathias van Caspel, Hartmut Hellmer, Nadine Steiger, Elin Darelius, Svein Osterhus Ocean circulation and warm water inflow on the southern Weddell Sea shelf.
15:50 – 16:05	Pedro J. Llanillo, Torsten Kanzow, Markus A. Janout, and Gerd Rohardt Observed variability of the deep-water plume in Weddell Sea: downstream connectivity and the influence of climate modes
16:05 – 16:20	Vanessa Teske, Ralph Timmermann and Tido Semmler Filchner Trough warming and Antarctic ice-shelf tipping point depend on future emission scenario

Additional information:

The seminar will take place in conjunction with the **AWI Lecture by Prof. Jean-Louis Tison** from the Université Libre de Bruxelles, Belgium. Lecture Prof. Jean-Louis Tison will be at the same location as the workshop and will start at 11:00. Stay tuned for AWI's Climate Sciences department announcements for details.