



DFG-SCHWERPUNKTPROGRAMM 1158

# ANTARKTIS FORSCHUNG

mit vergleichenden Untersuchungen in arktischen Eisgebieten

## Program

### Coordination Workshop SPP 1158

11<sup>th</sup>-13<sup>th</sup> September 2022, Universität Bielefeld, Zentrum für interdisziplinäre Forschung,  
Methoden 1, 33615 Bielefeld

#### Sunday, 11<sup>th</sup> September 2022

**6:00 pm**      *Icebreaker: Meet & greet at the Naturkundemuseum Bielefeld*  
Kreuzstraße 20, 33602 Bielefeld

#### Monday, 12<sup>th</sup> September 2022

**7:30-8:30 am**      Zentrum für interdisziplinäre Forschung (ZiF)

**Registration**, upload of talks/put up posters

**8:30-9:15 am**      Zentrum für interdisziplinäre Forschung (ZiF)

<u>Joseph Hoffman</u> (Bielefeld)	Greetings
<u>Ulf Karsten</u> (Rostock)	The priority program for Antarctic Research: Background and recent applications

**9:15-10:15 am**      *Short presentations 1 ZiF (chair: Petra Quillfeldt)*

<u>Andreas Beck</u> (München), Burkhard Becker & Christian Printzen	Structure and adaptations of lichen associated communities North and South the Drake Passage
<u>Hans-Peter Grossart</u> (IGB Berlin)	Molecular and physiological mechanisms of fungal parasitism and their ecological consequences in polar waters
<u>Kenneth Dumack</u> (Köln)	Diversity and host spectra of the ice-associated algae-parasitoid <i>Cryothecomonas</i>
<u>Jens Boy</u> (Hannover) & Grit Steinhöfel-Sasgen	Rock-microbiome co-adaptations in biogenic weathering (RICO-BW)
<u>Klaus Herburger</u> (Rostock)	Assessing carbon allocation to polysaccharides in Antarctic seaweeds under increasing temperatures

<u>Sylke Wohlrab</u> (Bremerhaven) & Uwe John	Functional adaptations within marine microeukaryotes to polar light regimes
Scarlett Trimborn (presented by <u>Jenna Balaguer</u> , Bremerhaven)	Elucidating the role of trace metal co-limitation on the fixation and export of carbon by Southern Ocean phytoplankton communities

**10:15-10:45 am**

**Coffee break** ZiF

**10:45-11:45 am**

**Short presentations 2** ZiF (chair: Burkhard Becker)

<u>Ying Ye</u> (Bremerhaven)	Response of the Southern Ocean biological carbon pump to changing iron supply
<u>Matthias Wietz</u> (Bremerhaven)	Year-round Dynamics and Drivers of the Biological Carbon Pump in the Weddell Sea revealed by autonomous samplers
<u>Helena Herr</u> (Hamburg)	Recovery status and ecology of fin whales at the West Antarctic Peninsula
<u>Kosmas Hench</u> (Bielefeld)	Temporal dynamics of inbreeding depression and genetic load in an Antarctic predator (the Antarctic fur seal, <i>A. gazella</i> )
Ursula Siebert (presented by <u>Johannes Baltzer</u> , Hannover <b>via Zoom</b> )	Extended marine mammal MMO/mitigation program in primary user project WAIS-BELL
Carlos Hermosilla & <u>Petra Quillfeldt</u> (Gießen)	Parasites in Southern Ocean albatrosses and seals and fishery induced evolution of parasites due to changes in predator diet
<u>Ekkehard Küstermann</u> (Bremen) & Christian Bock	Climate-induced nutritional changes and their consequences on the thermal tolerance of Antarctic fish
Felix Mark, <u>Heike Link</u> (Rostock), Hauke Flores & scientific party of EWOS PS129	EWOS – Pilot study and initiative for a long-term ecological observatory in the Weddell Sea

**11:45 am-12:15 noon**

**Short presentations 3** ZiF (chair: Oliver Huhn)

Doru C. Lupascu (presented by <u>Felix Paul</u> , Duisburg-Essen)	Mechanical properties of Antarctic Sea Ice
Ricarda Winkelmann (presented by <u>Torsten Albrecht</u> , Potsdam)	Feedbacks between the Greenland and Antarctic ICE sheets via the Meridional Overturning Circulation and relative sea-level (ICE-MOC)
<u>Jörg Ebbing</u> (Kiel) & Hannes Eisermann	Filling the void – Estimating sub-ice bathymetry around Antarctica
<u>Alexander Schwarz</u> (Duisburg-Essen), Carina Schwarz, Rainer Niekamp & Jörg Schröder	Least-squares finite element methods for the sea ice dynamics on large scales in the Southern Ocean

**12:15-1:15 pm**

**Lunch break** ZiF

**1:15-2:15 pm**

**Poster session 1** ZiF

13:15 - 14:15 h: posters with even numbers
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**2:15-3:15 pm**

**Short presentations 4 ZiF (chair: Mareen Lösing)**

<u>Sonja Berg</u> (Köln)	Holocene climate and ice sheet response in coastal East Antarctica
Martin Melles (presented by <u>Sonja Berg</u> , Köln)	Late Quaternary dynamics of the East Antarctic Ice Sheet in the Vestfold Hills, Prydz Bay – history and control
<u>Julia Gottschalk</u> (Kiel), Ralph R. Schneider, Johann P. Klages, Juliane Müller	Link between Late Pleistocene to Holocene East Antarctic ice sheet dynamics and ocean warming constrained by proximal and distal marine sediment records
<u>Alexey Petrunin</u> (Potsdam)	Determination of the thermal structure and surface heat flow in the Antarctic based on the inversion of multiple geophysical data (DETHEA)
<u>Claudia Ehlert</u> (Oldenburg) & Susann Henkel	Nutrient sources and cycling in the Weddell Sea and their sensitivity and feedbacks under changing climate (TRACK)
<u>Mirko Scheinert</u> (Dresden)	Geodetic investigations in East Antarctica
Clemens Schannwell (presented by <u>Clara Henry</u> , Hamburg)	Quantifying millennial timescale grounding-line retreat in East Antarctica
Sebastian Krastel & <u>Karsten Gohl</u> (Bremerhaven)	East Antarctic Ice Sheet sensitivity under vulnerable conditions
<u>Reinhard Drews</u> (Tübingen), J. Macke & Olaf Eisen	Light into darkness: Unravelling glaciological processes from Antarctic radar data using physical forward models and machine learning

**3:15-3:45 pm**

**Coffee break ZiF**

**3:45-5:30 pm**

**Logistics & data bank PANGAEA ZiF (chair: Angelika Graiff)**

<u>Andreas Läufer</u> (Hannover, or will be presented by <u>Ulf Karsten</u> , Rostock)	BGR logistics
<u>Ralf Tiedemann</u> (Bremerhaven)	RV Polarstern Workshop
<u>Olaf Eisen</u> (Bremerhaven)	Ronne Ice-Shelf Project
<u>Amelie Driemel</u> (Bremerhaven)	PANGAEA

**Networks ZiF (chair: Angelika Graiff)**

<u>Monika Rhein</u> (Bremen)	SCAR/IASC, Deutsches Nationalkomitee für Polarforschung
<u>Mirko Scheinert</u> (Dresden)	DGP – German Society for Polar Research
<u>Alexandra Zuhr</u> (Potsdam)	APECS-Gemany Polar Early Career network
<u>Torge Martin</u> (Kiel)	CLIVAR/CliC/SCAR/SORP

**7:00 pm**

**Dinner at Sparrenburg, transportation by organized buses**

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## Tuesday, 13<sup>th</sup> September 2022

**8:30-9:10 am**

**Short presentations 5 ZiF (chair: Stefanie Arndt)**

<u>Uta Krebs-Kanzow</u> (Bremerhaven)	The future surface mass balance of Antarctica on multi-centennial timescales
<u>Andreas Wernecke</u> (Hamburg)	Ein Ensemble an passiven Mikrowellen Meereis Konzentrationen: Identifikation von Fehlerquellen und Eigenschaften für eine anwenderfreundliche Monte Carlo Darstellung
<u>Helene Hoffmann</u> (Cambridge/Tübingen)	Investigating climate variability changes of the last 130 ka using an ice core from West-Antarctica
<u>Konrad Bärfuss</u> (Braunschweig)	Augmenting operational Atmospheric Observations with sustainable UAS Technologies in the Antarctic
<u>Florent Birrien</u> (Bremerhaven)	Optical and physical properties of snow on sea ice in Antarctica – the unknown. On its implication for snow, sea ice and atmosphere modelling
<u>Christian Melsheimer</u> (Bremen)	Satellite-based automatic detection of polar mesocyclones and polar lows in Antarctic Seas: Towards a long-term inventory for change detection

**9:10-9:20 am**

Short break

**9:20-9:40 am**

**Logistics ZiF (chair: Angelika Graiff)**

<u>Ingo Schewe</u> (Bremerhaven, <b>via Zoom</b> )	Access for external users to AWI's infrastructure: RV Polarstern, Polar 5 & 6, Neumayer-Station III, Kohnen Station, Dallmann Laboratory
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**9:40-10:00 am**

**DFG ZiF**

<u>Ismene Seeberg-Elverfeldt</u> (Bonn)	DFG – Instructions for submitting an application
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**10:00-10:30 am**

**Coffee break ZiF**

**10:30-11:20 am**

**Short presentations 6 ZiF (chair: Jan Tebben)**

<u>Oliver Huhn</u> (Bremen)	Ocean – ice shelf – sea ice interaction, submarine ice shelf melting and water mass formation in the southern Weddell Sea and its temporal evolution
<u>Niklas Neckel</u> (Bremerhaven)	Improving the detection of subglacial water transport beneath the Greenland and Antarctic ice sheets
<u>Lavinia Patara &amp; Torge Martin</u> (Kiel)	Impact of increasing meltwater discharge around Antarctica on Southern Ocean water mass formation and carbon uptake

<u>Alexandra Zuhr</u> (Potsdam)	Snow accumulation and surface mass balance in Dronning Maud Land, East Antarctica
Jörg Lippold & <u>Marcus Gutjahr</u> (Kiel)	Transfer of anthropogenic Lead (Pb) to Antarctic waters and the Pb-inventory of the Southern Ocean water column

**11:20 am-12:20 noon**

**Poster session 2 ZiF**

11:20 - 12:20 h: posters with uneven numbers
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**12:20 noon-1:30 pm**

**Lunch break ZiF**

**1:30-2:00 pm**

**Wrap-up & discussion ZiF**

<u>Ulf Karsten</u> (Rostock)	Summary and conclusion Wishes & problems of polar researchers
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**2:00-2:30 am**

**Coffee and farewell ZiF**

**2:00-2:30 pm**

**Meeting in small groups ZiF**

Coordination and strategies of projects Pooling and cross-linking of projects Long-term plans of project initiatives
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