



**UNIVERSITÄT
BIELEFELD**

Fakultät für Physik

Physikalisches Kolloquium

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The MOSAiC Expedition - A year in the Arctic Ice

I want to take you along on the largest arctic expedition in history: in September 2019, the German research icebreaker Polarstern set sail from Tromsø, Norway, to spend a year drifting through the Arctic Ocean - trapped in the ice. The goal of the MOSAiC expedition was to take the closest look ever at the Arctic as the epicenter of global warming and to gain fundamental insights that are key to better understand global climate change and improve climate models for the Arctic. Hundreds of researchers from 20 countries were involved in this exceptional endeavour. Following in the footsteps of Fridtjof Nansen's ground-breaking expedition with his wooden sailing ship Fram in 1893-1896, the MOSAiC expedition brought a modern research icebreaker close to the north pole for a full year including for the first time in polar winter. The name MOSAiC (Multidisciplinary drifting Observatory for the Study of Arctic Climate) mirrors the complexity and diversity of this expedition. Large scale research facilities addressing key aspects of the coupled Arctic climate system were set up on board of RV Polarstern and on the sea ice next to it, in the so-called ice camp. A distributed regional network around the central observatory was comprised of autonomous and remotely-operated sensors - characterizing the heterogeneity of key processes in an area representing a typical grid box of modern climate models and providing invaluable data for the development of parametrizations for sub-grid-scale processes in climate models.

Monday, May 16, 2022, 4:15 p.m.

via zoom