

AWI Lecture

with **Amaëlle Landais**

from the Climate and Environmental Sciences (LSCE) at the French National Centre for Scientific Research (CNRS),

recipient of the Helmholtz International Fellow Award in 2020

will take place on the

03.11.2022 at 2 pm,

followed by a small reception at the

Telegrafenberg A45S Lecture Hall (and online)



Glacial – interglacial variability recorded in deep polar ice cores

Ice cores are unique archives for climate and environment over the last 800 000 years. Because of the progressive burying of snow over 3 km of depth and trapping of atmospheric air, the ice cores display high resolution records and there are the only archives providing direct record of past atmosphere composition. They also contain numerous information enabling their precise dating.

During this presentation I will present recent results obtained on deep Antarctic ice cores in East Antarctica to present a comprehensive picture of the climate and environment sequences over the glacial – interglacial transitions which are the largest climate changes of the last 800 000 years. My presentation will focus mainly on the EPICA Dome C ice core documenting climate and environment variations over the last 800 000 years and on the TALDICE ice core which has been recently dated back to 400 000 years before present.

The first part of the talk will be devoted to the recent and ongoing improvements of the dating of these two ice cores which are key to look at the phase relationship between external forcing and climatic response in Antarctica. In a second part, I will emphasize on geochemical proxies enabling to document the link between high latitude climate, low latitudes climate and the evolution of biogeochemical cycles (carbon, oxygen) over the glacial – interglacial transitions of the last 800 000 years. Finally, I will present some ongoing research projects in the french ice core community.

For online participation, please contact liv.heinecke@awi.de.