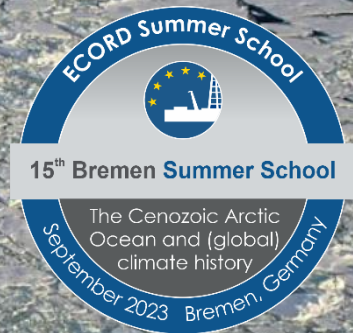


## "From Greenhouse to Icehouse – The Cenozoic Arctic Ocean and (global) climate history"



**4 – 15 Sep. 2023**  
**Bremen, Germany**

### Invited lecturers:

O. Esper, Bremerhaven, Germany  
W. Geibert, Bremerhaven, Germany  
W. Geissler, Bremerhaven, Germany  
J. Knies, Trondheim, Norway  
P. Knutz, Copenhagen, Denmark  
M. Kucera, Bremen, Germany  
H. Kuhlmann, Bremen, Germany  
R. Lucchi, Trieste, Italy  
J. Matthiessen, Bremerhaven, Germany  
J. Müller, Bremerhaven, Germany  
M. O'Regan, Stockholm, Sweden  
U. Röhl, Bremen, Germany  
M. Rydzy, Leicester, UK  
K. Sliwinska, Copenhagen, Denmark  
R. Stein, Bremen, Germany  
K. St. John, Harrisonburg, USA  
E. Weigelt, Bremerhaven, Germany

and others ...

### Venue:

MARUM – Center for Marine  
Environmental Sciences



and the  
IODP Bremen Core Repository  
(BCR)



University of Bremen  
Germany

## The Topic

The Arctic Ocean is characterized by strong seasonal forcing and variability in runoff, sea-ice formation, sunlight, and related biological productivity. It is nowadays and was in the geologic past subject to rapid and dramatic change. Due to complex feedback processes (i.e., “polar amplification”), the Arctic is both a contributor of climate change and a region that will be most affected by global warming. Geological records from the Arctic Ocean document past climatic conditions, rates of change and variability prior to anthropogenic influence, that might represent analogues of our future climate, depending on the different IPCC scenarios. Such records may allow to assess the sensitivity of the Earth’s climate system to changes of different forcing parameters (e.g., atmospheric CO<sub>2</sub>) and boundary conditions (e.g., plate tectonic settings, presence or absence of major ice sheets, etc.) and to test the reliability of climate models by evaluating their simulations for conditions very different from the modern climate. In this context, the understanding of the long-term Arctic climate history with its change from Greenhouse to Icehouse conditions during the Cenozoic, i.e., the last 66 million years, is of overall significance.

## The School

The 15<sup>th</sup> Bremen ECORD Summer School will combine lab exercises on IODP-style shipboard methodologies (“shipboard simulation”), as well as interactive lectures by world-leading scientists in the field of reconstructing Arctic Ocean Cenozoic history. Participation will help to prepare you for involvement in IODP and for research work in this field. The summer school will take advantage of the unique and integrated facilities offered by the IODP Bremen Core Repository and MARUM laboratories.

## Application

To apply, please visit the course web page given below. A total of 30 participants can be accepted. The course fee is **€150**. Travel, accommodation and meals must be covered by the participants. The **application deadline is 31 May 2023**.

## Scholarships

ECORD provides scholarships for students to attend ECORD summer schools. The **deadline** for applications to get an **ECORD Scholarship** will be announced on the webpage of the summer school (see below).



[marum.de/ECORDSummerSchools](https://marum.de/ECORDSummerSchools)