Уважаемые коллеги, приглашаем Вас принять участие в семинаре «Caves for the future: A new era for paleoclimate research with open data».

Дата проведения: **28 октября (понедельник).**

Место проведения: **Институт земной коры СО РАН, конференц-зал,** (ул. Лермонтова 128).

Начало мероприятия: **10:00**

Данный семинар будет посвящен очень интересной теме - палеоклиматическим исследованиям на основе открытых данных. В ходе семинара молодые исследователи из Германии и Великобритании расскажут о том, как данные из спелеотем (пещерных карбонатных отложений), донных отложений, кернов льдов и других источников используются в палеоклиматических построениях и моделях.

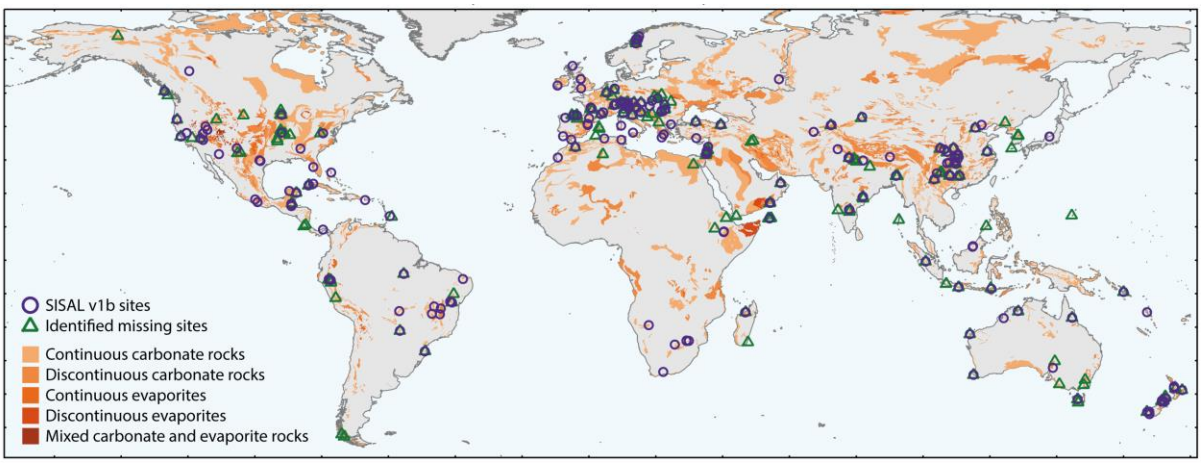
Рабочий язык семинара: английский.

Участники семинара:

Лая Комас Бру

(LAIA COMAS BRU)

исследователь школы археологии, географии и наук об окружающей среде, Университета Рединга, Уайткнайтс, г. Рединг Великобритания.



Topic: Bridging the isotope gap

Laia studied Marine Sciences in Vigo (Spain) and holds an MSc in Coastal Geosciences and Engineering from University of Kiel (Germany). She did her PhD in Palaeoclimate in University College Dublin (Ireland) under the supervision of Prof. Frank McDermott and is currently working as a Postdoctoral Research Assistant in Palaeohydrological Data Analysis in the University of Reading (UK) with Prof. Sandy Harrison. She is currently the lead co-ordinator of the PAGES-sponsored SISAL (Speleothem Isotopes Synthesis and Analysis; http://pastglobalchanges.org/sisal) working group, aimed at developing a global data synthesis of stable isotope records. Preliminary climate model evaluations using the SISAL database have been done as a Charlemont 2018 Scholar of the Royal Irish Academy.

Speleothems, because of their extremely high temporal resolution and the excellent opportunities for dating, provide a unique opportunity for assessing climate changes on various spatial and temporal scales. An increasing number of climate models explicitly simulate water isotopes as a tool for characterizing and diagnosing the atmospheric hydrological cycle and evaluations against palaeo-records such as the $\delta^{18}O$ records from speleothems can provide an "out-of-sample" test of these models. However, although the >950 speleothems published provide one of the few data sources that can test models' ability to capture decadal to millennial climate variability, they have not been used systematically yet (e.g. only 7 speleothems are included in the standard PMIP benchmark dataset). The PAGES (Past Global Changes) working group SISAL (Speleothem Isotopes Synthesis and Analysis) that Laia is spearheading has developed a public-access database paying due attention to the documentation of measurement and age-model uncertainties to carefully screen the records. In this talk, Laia will present our community-endorsed protocol for using speleothem records for data-model evaluation in a sound manner.

ORCID: https://orcid.org/0000-0002-7882-4996

Кира Рефельд

(KIRA REHFELD)
исследователь
Гейдельбергского
университета,

г. Гейдельберг,
Германия.

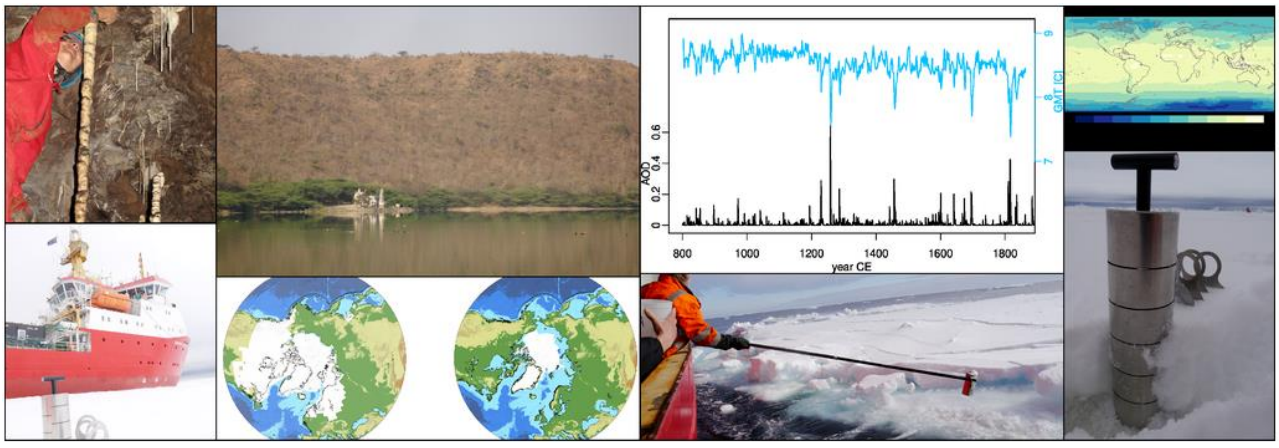
INSTITUT FÜR
UMWELTPHYSIK

UNIVERSITÄT
HEIDELBERG
ZUKUNFT
SEIT 1386

Palaeoclimate dynamics and variability

STACY

State and timescale-dependency of climate variability from the last Glacial to present day



Topic: Global climate variability in past cold and warm states - lessons for the future

Changes in climate variability are as important for society as are changes in mean climate. Contrasting last Glacial and Holocene temperature variability can provide new insights into the relationship between the mean state of climate and its variability. However, although glacial--interglacial changes in variability have been quantified in Greenland, a global view remains elusive.

Here, we present the first quantitative reconstruction of changes in temperature variability between the Last Glacial Maximum and the Holocene, based on a global network of marine and terrestrial temperature proxies. We show that temperature variability decreased globally by a factor of 4 for a warming of 3-8C. The decrease displayed a clear zonal pattern with little change in the tropics (1.6-2.8) and greater change in the mid-latitudes of both hemispheres (3.3-14). In contrast, Greenland ice-core records show a reduction of a factor of 73, suggesting a proxy-specific overprint or a decoupling of Greenland atmospheric from global surface temperature variability. The overall pattern of variability reduction can be explained by changes in the meridional temperature gradient, a mechanism that points to further decreasing temperature variability in a warmer future.

ORCID: https://orcid.org/0000-0002-9442-5362