FORMAT AND SESSIONS
The colloquium will consist of three main sessions dealing with the topics:

- quantitative approaches in spatial and non-spatial archaeological case studies
- data mining and new techniques of supervised and unsupervised pattern recognition in archaeological and environmental datasets
- applications and approaches to socioecological modelling on different scales and temporal resolution

INVITED SPEAKERS
Juan A. Barceló; Universitat Autònoma de Barcelona
Michael Barton; Arizona State University
Mikhail Kanevski; University of Lausanne
Oliver Nakoinz; University of Kiel

R WORKSHOP
On the third day of the colloquium, 6th February 2019, participants will have the opportunity to join a R workshop where they will work on real archaeological data and learn the application of advanced machine learning techniques.

VENUE

CONFERENCE REGISTRATION
Due to organisational purposes please register online if you like to participate. The fee for conference registration includes workshop registration, materials, coffee breaks, and the conference dinner.

BA and MA students are exempt from the registration fee. Online registration will be open until 18th January 2019. There will be a grant to support travel and accommodation expenses for young scientists, i.e. BA / MA / PhD students and early Postdocs, presenting a talk or poster at the colloquium.

GENERAL INFORMATION
The colloquium will take place at the University of Bern, Switzerland. For further and updated information please visit www.oeschger.unibe.ch/dab2019

We look forward to meeting you in Bern!

Maria Elena Castiello, Julian Laabs and Martin Hinz
on behalf of the Organization Committee and the Institute of Archaeological Sciences, Bern University

University of Bern, Institute of Geography, Hallerstrasse 12, 3012 Bern
Recent advances in computer and environmental science, climate modelling and other disciplines as well as the availability and processability of (openly shared) big data have triggered fundamental changes in research over the last decades and expanded the toolbox of archaeological methods. While traditional methods (i.e. typochronology, mapping sites) remain important and continue to be used to study material culture complexes and past human societies over time and space, novel quantitative approaches based on spatial analysis, however, are rapidly gaining momentum. The archaeological community has recognized their importance to support and add value to archaeological data as their contextualization and interpretation.

The development of highly specialized plugins and packages in open-source frameworks like R, QGIS and SAGA GIS has enabled researchers to process archaeological data using a much wider range of statistical methods, significantly advancing our ability to understand the spatio-temporal dynamics of past human societies. Tools like unsupervised classification (i.e. clustering and principal component analysis) and machine learning (i.e. regression trees and neural network), which few years ago were only available to statisticians and computer scientists, are rapidly adopted by archaeological researchers.

This workshop will provide a forum to present innovative ideas for applying quantitative approaches to better understand the dynamic of human-human and/or human-environment relationship. The aim is also to initiate a dialogue within the archaeological community on the interaction of different approaches to spatial modelling and classification techniques. This event addresses colleagues who would like to exchange their ideas for the use of these innovative tools and demonstrate their relevance for archaeological applications in research, heritage management practice, theory building and construction of narratives/models of (pre-)history.