



## **Late Glacial vegetation reconstruction based on leaf waxes from the Gemündener Maar, Germany**

Lorenz Wüthrich (1), Selina Lutz (1), Michael Zech (2), Johannes Hepp (2), Frank Sirocko (3), and Roland Zech (1)

(1) Geographical Institute, University of Bern, Switzerland (lorenz.wuethrich@giub.unibe.ch), (2) Institute of Agronomy and Nutritional Sciences, Martin-Luther University Halle-Wittenberg, Germany, (3) Institute of Geosciences, Johannes Gutenberg University, Mainz, Germany

Lake sediments are valuable archives for the reconstruction of past changes in climate and vegetation. In the present study, we analyse samples from the Gemündener Maar, a lake situated in the western Eifel, Germany, for their leaf wax composition: In the bottom part of the core, corresponding to the Oldest Dryas (i.e. older than ~15 ka), n-alkanes have a high average chain length (ACL), which points to a vegetation dominated by grass. During the Bölling/Alleröd, a decrease of the ACL can be interpreted as signal of more deciduous trees. During the Younger Dryas (~12.8 to 11.5 ka), the ACL increases again. Trees probably became again less abundant, before finally, the ACL records the return of deciduous trees during the early Holocene. In general, the total concentrations of both, n-alkanes and sugar biomarkers are high enough to measure compound-specific isotopes on n-alkanes (deuterium) and sugars (18-O). Combined, these two isotopes might help to obtain more information about the relative humidity and mean air temperature during the late glacial.