



2 PhD positions in Quaternary Palaeoecology / chironomid-based climate reconstruction

100% / Possible date of entry: July 2026

The Department of Environmental Sciences, University of Basel invites applications for two **PhD positions** in the research group Geoecology. Where have warm-adapted ecosystems and organisms survived unfavorable conditions in the past? What were the environments that characterized such refugial areas during the Quaternary Ice Ages? How and with which dynamics did warm-adapted organisms expand from these areas under warming climate after the ice ages? These are central questions for both Biogeography and Quaternary Palaeoecology, and the answers provide the basis for predictions of ecosystem and species response to future climatic change.

Your position

We are looking for PhD candidates that will work towards resolving these research questions in the interdisciplinary SNF research project ECO-ICE. The project will collect, analyse and interpret new lake sediment records from key refugial localities covering the Last Glacial Maximum. This will allow a revised assessment of the survival of temperate tree populations in Europe and their response to major climatic variations during and after the last ice age. The successful candidates will develop high-resolution palaeoecological records of aquatic invertebrate assemblage change, particularly focusing on the remains of chironomid (non-biting midge) larvae. Based on these sensitive temperature indicators, they will develop quantitative reconstructions of glacial temperatures using multivariate statistical methods, results that will be compared with other, independent temperature reconstructions, high-resolution palaeobotanical records, and vegetation modelling scenarios developed by project partners. This research will be essential for developing new palaeoclimate scenarios for ice age Europe, for understanding ice age ecosystems, and for reassessing the ice age refugia and postglacial expansion of temperate trees in Europe.

The two PhD students will work in close collaboration with six other PhD candidates at the Universities of Basel and Bern and contribute to fieldwork in Western, Central and Southern Europe, sedimentological analyses and dating of ice age lake sediment records. They will produce records of fossil chironomid assemblage change, identifying chironomid and other aquatic invertebrate remains under the microscope, and develop ecological and numerical interpretations of the results. They will take the main responsibility for developing palaeoecological temperature records at key project sites and, together with other PhD students and project partners, contribute to the overall interpretation of the project results. The positions are funded by the Swiss National Science Foundation (SNF) for four years and salaries will follow SNF guidelines (<https://www.snf.ch/en>).

Your profile

Applicants should hold an MSc in Earth or Environmental Sciences, Physical Geography, Ecology, Quaternary Science, Paleocology, or a related field. Experience in paleolimnology, palaeoecology, limnology, microfossil analysis and/or sediment work would be an advantage. Candidates should be motivated to conduct fieldwork abroad and have good English language skills. Good communication and organizational skills, willingness to take on responsibility for individual subprojects and motivation to work in an interdisciplinary team environment are essential.

Application / Contact

Please submit your complete application documents, including a letter of motivation, CV, copies of academic qualifications and contact details for three referees via our **online recruiting platform**. We accept online applications only.

A first evaluation of applications will start on April 24 and continue until the positions have been filled. For enquiries please contact Prof. Dr. Oliver Heiri (oliver.heiri@unibas.ch), for more information on the Geoecology group please visit <https://duw.unibas.ch/en/research-groups/geoecology/>. We aim to start the project by 1 July 2026.

APPLY