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## **Two fully funded PhD studentships in paleoseismology and paleoclimate**

The Sedimentary Geochemistry research group at the Institute of Geological Sciences and the Oeschger Centre for Climate Change Research, University of Bern invites applications for two PhD studentships funded through the Swiss National Science Foundation (SNF). Both PhD projects are embedded in an exploratory research endeavor that targets one of Indonesia's oldest lakes on the island of Sulawesi, hosting a sedimentary record that possibly extends back to more than 1 Myr.

### **Paleoseismology PhD project**

The Palu-Koro Fault is one of the most active strike-slip faults on Earth. The field site is located close to the fault trace and offers the potential to host a long, well stratified sediment record, ideally suited to produce a detailed record of earthquake recurrence and magnitude well beyond the historical record. The PhD student will use sophisticated geophysical surveying methods (swath bathymetry & high-resolution reflection seismics) to explore the basin morphology and sedimentary subsurface to detect traces of past earthquakes and to identify suitable coring sites for the generation of a paleoseismological record. Sediment cores will be collected and analyzed using a suite of state of the art and innovative techniques (CT imaging, petrophysical logging (Geotek MSCL), XRF scanning, CNS measurements, CN isotopes, single-grain luminescence) to characterize event deposits and sources.

### **Paleoclimatology PhD project**

Indonesia is located in one of the key regions affected by El Niño drought events. This PhD project will help to extend back in time the observational climate record while assessing the effect of interannual and long-term climatic changes on the environment using sedimentary records from one of Indonesia's largest and oldest lakes. High-resolution paleoclimate reconstructions will benefit from bottom-water anoxia likely leading to well-stratified (possibly varved) sediments ideally suited for establishing robust chronologies. The PhD student will perform a detailed sampling program at the field site focusing on modern limnology as well as modern depositional processes to calibrate paleoclimate proxies. In addition, sediment cores will be collected from sites ideally suited for paleoclimate studies. Laboratory work will involve a suite of tailored (isotope-)geochemical, organic geochemical, and high-resolution scanning techniques (hyperspectral imaging, scanning XRF). Biological remains will be analyzed by international collaborators.

The PhD studentships are fully funded for a duration of 4 years. Gross salaries range from 47'040 in the 1<sup>st</sup> to 50'040 CHF p. annum in the 4<sup>th</sup> year. The ideal start date is spring 2020. Applications should include a CV, degree certificates, a letter of motivation, and 2 references. Applications should be sent as one single pdf file to PD Dr. Hendrik Vogel ([hendrik.vogel@geo.unibe.ch](mailto:hendrik.vogel@geo.unibe.ch)).