UNIL | Université de Lausanne

Faculty of Geosciences and the Environment
Institute of Earth Surface Dynamics

UNIL is a leading international teaching and research institution, with over 5,000 employees and 17,000 students split between its Dorigny campus, CHUV and Epalinges. As an employer, UNIL encourages excellence, individual recognition and responsibility, and here invites applications for a

PhD position in Pleistocene–Holocene paleotemperature reconstruction using luminescence methods

Start date	01.04.2022 (flexible)
Duration	Four years
Percentage time	100%
Place of work	Lausanne Mouline (Géopolis)

A four-year fully-funded PhD position is available in the Institute of Earth Surface Dynamics (IDyST) at the University of Lausanne, focussing on the application of a paleothermometry method based on luminescence of bedrock quartz and feldspar. The reconstruction of absolute surface air temperatures during glacial and interglacial periods is essential to test and calibrate climate models. However, most climate archives and proxy data only allow for relative temperature fluctuations to be determined, for areas where such archives have been preserved. This PhD position aims to apply a recently developed luminescence paleothermometry method to selected sites in Europe and Africa with the goal of reconstructing surface air temperature patterns during the last glacial maximum and throughout the Pleistocene-Holocene transition.
This position is part of a 4-year project funded by the Swiss National Science Foundation and will involve close collaboration with other group members focussed on the development of the palaeothermometry method and numerical models for the technique's application in paleoclimate research.
Prior experience in luminescence dating or luminescence research would be advantageous. The successful candidate will join the ICE group in the Institute of Earth Surface Dynamics which specialises in paleoenvironment and landscape evolution in a range of different environmental settings. More information about the group can be found here: https://wp.unil.ch/ice/
The Faculty of Geosciences and the Environment at the University of Lausanne offers both state-of-the-art luminescence research and super-computing facilities.

Desired profile

- MSc degree in geography/geology/earth science/physics or engineering.
- Experience in luminescence or ESR dating or luminescence research.
- Prior experience of numerical modelling would be advantageous. Candidates must be numerate.
- Excellent command of written and spoken English. Working knowledge of French is not necessary, but would be advantageous.
- Willingness and capacity to carry out fieldwork, also in subarctic and tropical areas, and to participate in international conferences.
- Interest in developing and applying new analytical approaches.

Description of responsibilities

100% of the engagement will be dedicated to research on the application of luminescence paleothermometry to the chosen study sites.

Application documents

- Motivation letter
- Curriculum vitae
- Copy of university degree certificates and transcripts of marks awarded
- Contact information for two professional references

The application documents must be uploaded as a single PDF file at the career portal of UNIL (https://www.unil.ch/carrieres/en/home/menuinst/emplois.html).
For further details of the project and for any questions, please contact PD Dr. Christoph Schmidt (christoph.schmidt@unil.ch) or Prof. Dr. Georgina King (georgina.king@unil.ch).

Application deadline

20 November 2021