

Ph.D. Opportunities in the Faculty of Geosciences and Environment, University of Lausanne, Switzerland

1. Palaeoecology/Palaeoclimatology: Reconstructing pre-industrial land cover and climate
2. Applied computing: environmental science

We are looking for a motivated student with a background in palaeo-environmental science or applied computing to join the ARVE interdisciplinary research team at the University of Lausanne in Switzerland. We are offering a fully funded Ph.D. research studentship for up to four years with an attractive living-wage salary (around 50,000 USD per annum). The general research focus of the team is on the role of humans in modifying the Earth's land surface and biogeochemistry. Our research encompasses soil science, environmental physics, biogeochemistry, hydrology, land cover and climate reconstruction, climate modelling and remote sensing.

The doctoral project will be defined in collaboration with the student, but will be aimed at reconstructing land-cover changes and climate at continental scales during the pre-industrial period.

1. The first studentship will mainly involve the compilation and computer-based analysis of large spatial datasets, including palaeoecological and archaeological data. Research aims include the role of early human societies in determining land-cover change during the Holocene particularly in Africa. A background in paleoecology, palaeoclimatology and archaeology would be desirable, together with a working knowledge of GIS and spatial analysis. Much of the work will be computer-based, and the applicant will need a general competency and willingness to work with computers.
2. The second studentship is in applied scientific computing. The student will develop codes for the efficient solution of complex numerical problems in reconstructing land-cover and palaeoclimate change, and in modelling human-environment interactions. This will include developing model simulations, collating results and preparation of maps and animations of complex multi-dimensional spatial data. Applicants should have experience in modern Fortran (90/95/2003) programming, or in scientific/mathematical applications of C/C++ and a willingness to learn Fortran, as well as educational exposure to linear algebra and differential equations. Experience in R, GIS and PostgreSQL programming would be a bonus.

The working language in the group is English, the doctoral dissertation will be written in English, and a high degree of fluency in both written and spoken English is essential. French is the language of the University and of the local region. Students of all nationalities will be considered and residence permits for non-Swiss students can be arranged.

For more information please contact Prof Jed Kaplan (jed.kaplan@unil.ch) or Dr Basil Davis (basil.davis@unil.ch).

Review of applications will begin after Friday 27th March 2015 and will continue until the position is filled. We are looking to start the position as soon as possible after this date. To apply please email as a single pdf file a covering letter detailing your skills and motivation for the post, together with your CV to basil.davis@unil.ch.