PhD Position (Graduate Assistant) in quantitative precipitation estimation
University of Lausanne

Job Title	PhD Position (Graduate Assistant) in quantitative precipitation estimation
Department	Institute of Earth Surface Dynamics https://www.unil.ch/idyst/en/home.html
Institution	University of Lausanne Lausanne, , Switzerland
Date Posted	Apr. 9, 2025
Application Deadline	Jun. 30, 2025
Position Start Date	Available immediately
Job Categories	Graduate Student
Academic Field(s)	Geology/Geosciences - General Geodetic Sciences Environmental Sciences/Ecology/Forestry Earth Sciences Atmospheric Sciences Sciences - General
Apply Online Here	https://bit.ly/424vUli
Apply By Email	
Job Description	

Introduction

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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.

Presentation

The Institute of Earth Surface Dynamics (**IDYST**) at the Faculty of Geosciences and Environment is opening one PhD position in the **GAIA Lab**, in collaboration with the **Expertise Center for Climate Extremes**.

Job information

Expected start date in position : 01.11.2025 or upon agreement

Contract length : 1 year, renewable 2 x 2 years, maximum 5 years

Activity rate : 80%

Workplace : Institute of Earth Surface Dynamics, Faculty of Geosciences and Environment (FGSE), University of Lausanne (Mouline, Building Géopolis)

Your responsibilities

Precipitation is one of the most important environmental parameters as it impacts the water cycle, ecosystems, the state of natural resources, and the occurrence of natural disasters such as floods, droughts and landslides. However, it is also one of the most difficult quantities to measure in environmental systems. The high spatial and temporal variability, the uncertainty of measurement methods, and the sensitivity to climate change all call for new measurement approaches and models that account for new data types.

The goal of this PhD project is to develop innovative ways of characterizing rainfall events. This will be achieved by using and improving spatio-temporal statistical models that have been developed in the GAIA lab at UNIL. The project will benefit from several years of data from a high-density network of rain gauges deployed in Lausanne.

The aim is to better characterize extreme rainfall events and their effects (in particular floods) in urban contexts and beyond. The research may also relate to studying the impacts of extreme rainfall, for example using urban flood modelling.

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A minimum of 50% of the working time will be dedicated to research towards PhD; the remainder of the working time will be devoted to teaching and other institutional activities.

Your qualifications

Applicants should be committed to and enthusiastic about conducting a PhD thesis on the development of statistical models that relate the physical processes underlying rainfall and statistical properties of the precipitation observations. The chosen candidate will have a master's degree in geosciences, climatology, mathematics, physics, computer science, civil engineering, or a related domain. A requirement for this position is a good base in applied mathematics and programming, demonstrated through academic works (e.g. MSc thesis and/or publications). Knowledge in geostatistics or machine learning, experience in handling remote sensing or climate datasets are advantages.

Candidates should be prepared to develop and use advanced numerical methods, such as geostatistics and machine learning.

Proficiency in written and spoken English is required. Knowledge of French is preferred, but not essential.

What the position offers you

We offer a nice working place in a multicultural, diverse and dynamic academic environment. Opportunities for professional training, a lot of activities and other benefits to discover. More informations **here**.

Employment conditions (salary scales) can be found at the following link:
https://www.unil.ch/files/live/sites/unil/files/05-travailler/0503-avantages/Bar%c3%a8mes%202025/Assistant_doctorant_2025.pdf

Contact for further information

Questions regarding the application can be addressed by email to Prof. Gregoire Mariethoz (**gregoire.mariethoz@unil.ch**).

Your application

Deadline : 30.06.2025

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Please send your full application in Word or PDF, which should include all of the following documents:

- Motivation letter,
- Curriculum Vitae,
- Copy of university degrees certificates and transcripts of marks awarded,
- An electronic version of a research output (MSc diploma thesis, research report, proceedings paper or other scientific publication),
- A brief description of a potential PhD thesis project related to the position (1 page)

Only applications through this website will be taken into account:https://bit.ly/424vUli

Additional information

UNIL is committed to:

- equality, diversity and inclusion within its community;
- ensuring an open and respectful environment that is conducive to personal development;
- offering working conditions that facilitate work-life balance;
- supporting early career researchers.

unil.ch/egalite

unil.ch/familles

unil.ch/graduatecampus

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact Gregoire Mariethoz
Institute of Earth Surface Dynamics
University of Lausanne

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Lausanne
Switzerland

Contact E-mail gregoire.mariethoz@unil.ch