

PhD position in Plant Biology in Neuchâtel, Switzerland

The Laboratory of Plant Molecular and Cell Biology headed by Prof. Joop Vermeer is recruiting a PhD student. The position is available from **September 2025**.

The Vermeerlab investigates how intercellular communication accommodates the formation of new organs, using lateral root formation as a model. We are using *Arabidopsis thaliana*, *Cardamine hirsuta* as well as *Brachypodium distachyon* as experimental systems. We have previously shown that communication between the pericycle and the endodermis is essential for lateral root formation in *Arabidopsis*. We are using the pericycle / endodermis communication to better understand how biochemical and mechanical signals are integrated during three dimensional differential growth. The goal is to better understand the networks that regulate root branching to eventually link these to environmental signals.

We use and develop genetic and molecular tools to manipulate signaling in specific cell layers, high-resolution- and live-imaging at multiple scales, transcriptomics, proteomics, histology and plant physiology to understand the regulation of root branching in diverse plant species.

Topic: The project is focused on the functional characterization of MAP70 proteins in *Arabidopsis* as possible integrators of mechanical signals during growth and development. You will also work on the functional characterization of potential interactors of MAP70 proteins that have been identified via proximity-based ligation. In addition, the project also aims at characterizing MAP70 proteins in other plant species. In this project, you will use a combination of molecular biology, functional genetics, proteomics, live cell imaging and image analysis.

Requirements:

- Master's degree in (plant molecular)biology
- Proficiency in English (oral and written)
- Willing to assist with practical courses
- Previous experience in one or several of the following fields:
 - (Molecular) genetics
 - Cytoskeleton
 - Confocal microscopy and/or histology
 - Plant physiology
 - Statistical analyses and computational approaches (e.g. using R, Python, Alphafold) is advantageous.

We offer:

- Fully funded employment with social benefits
- Networking and workshops through membership in the CUSO Molecular Plant Science doctoral program (<https://biologie.cuso.ch>)

Located at the Lac de Neuchâtel and with spectacular views over the Alps, the plant sciences at UniNE offer a collaborative and dynamic environment. We are part of the Institute of

Biology (www.unine.ch/biologie), which covers further disciplines such as microbiology, ecology, and evolutionary biology.

Western Switzerland provides a fantastic environment for plant research. Its collegial and diverse research community combined with easy and efficient national and international travel provide exceptional possibilities for collaborations and access to state-of-the-art technical platforms.

For further information, please contact Joop Vermeer via email (joop.vermeer@unine.ch). To apply, please send your letter of motivation, CV, and names and contact details of two referees **as a single document** to joop.vermeer@unine.ch. Review of applications will start immediately until the position has been filled. Starting date: negotiable but preferably September 2025.