

## 2 PhD students positions in Plant Cell Biology

The Laboratory of Cell and Molecular Biology (Institute of Biology) of the University of Neuchâtel.

Job starts: 01.08.2019 (Start date is flexible)

Term: 4 years

Location: Neuchâtel (Switzerland)

The Laboratory of Cell and Molecular Biology, chaired by Prof. Joop Vermeer, is searching for 2 highly motivated PhD students to work on cell volume regulation during organ growth in plants.

The Vermeer lab investigates the molecular basis of cell volume regulation and intercellular communication during organ growth, using lateral root development as a model. Our main model is *Arabidopsis thaliana* for which we have generated a large set of novel tools and transcriptomic data sets on that we will use to further dissect this process. In parallel, we have started to explore the lateral root developmental program in the grass *Brachypodium distachyon*, to test whether the newly-identified mechanisms are conserved. In our research, we use advanced microscopy, histology, tissue-specific transcriptomics and cell-type specific manipulation of cellular properties to better understand how organ growth within a tissue of interconnected and pressurized cells is regulated. We are a diverse group with backgrounds in (plant) biology, genomics, agronomy and plant-microbe interactions. We put a lot of emphasis on team work and scientific discussions.

### Job description

Available PhD projects include dissecting the cellular communication during lateral root formation one species at a time. For this, we build on our recently generated cell type specific expression atlas of auxin-mediated lateral root formation. In addition, we will functionally characterize a novel set of mutants that are suppressors of impaired spatial accommodation. Finally, we will test new sensors in order to characterize changes in osmotic potential, molecular crowding, mechanical stress and membrane tension. The PhD projects are in collaboration with other groups in the lateral root community.

The Institute of Biology ([http://www.unine.ch/biol/page-7860\\_en.html](http://www.unine.ch/biol/page-7860_en.html)) offers a highly dynamic and diverse research environment and is located at the beautiful Lake Neuchâtel with views of the Swiss Alps. The city of Neuchâtel is centrally located in Switzerland and most other cities can be reached within 0.5 - 2 h. The working language in the group is English.

Knowledge and experience needed for the job:

Candidates must hold a MSc degree in biology and have a strong interest in combining functional imaging and cell and molecular biology. Experience in molecular genetics and microscopy is not required but is a plus. We expect group members to have strong social skills and actively engage in collaborations. Positions are available from August 2019 but later dates are also possible. Applications will be reviewed starting 1st of July 2019 but the positions remain open until filled.

Applicants should send documents (as a single pdf) including:

- A cover letter stating their research interests and motivation to apply.
- A complete curriculum vitae.
- A reference letter of at least one referee.

Any inquiries about the positions and full applications should be sent to:

**Joop Vermeer** ([Josephus.Vermeer@unine.ch](mailto:Josephus.Vermeer@unine.ch)).

The University of Neuchâtel is committed to promoting equality of opportunity.