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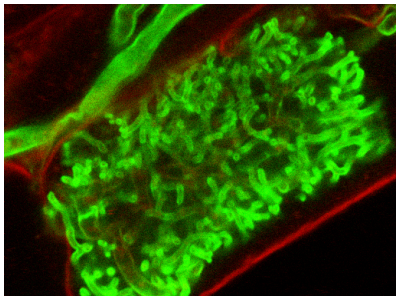

PhD position

Communication in symbiosis via lipochitooligosaccharides and their degradation products

A PhD position is available in the group of Didier Reinhardt at the University of Fribourg (Switzerland). We are looking for a motivated young researcher with an interest in symbiotic plant-microbe interactions, and with a strong background in molecular biology. The successful candidate will explore the function of lipochitooligosaccharides (LCO) and their degradation products in the symbiosis with arbuscular mycorrhizal fungi and rhizobia. We will employ forward and reverse genetic tools to explore the function of LCO-metabolizing enzymes and transporters in symbiosis. A key target will be the identification of LCO-derived signaling molecules and their role in symbiotic specificity, attenuation of defense in the host, and long-term compatibility between the symbiotic partners.
The project is related to work described in the following papers:

VAPYRIN attenuates defence by repressing PR gene induction and localized lignin accumulation during arbuscular mycorrhizal symbiosis of *Petunia hybrida* (2021). Chen *et al*. New Phytologist 229, 3481-3496. doi: 10.1111/nph.17109

LCO receptors involved in arbuscular mycorrhiza are functional for rhizobia perception in legumes. (2019). Girardin *et al*. Current Biology, 29, 1-11. doi: 10.1016/j.cub.2019.11.038

Role of the Nod factor hydrolase MtNFH1 in regulating Nod factor levels during rhizobial infection and in mature nodules of *Medicago truncatula* (2018). Cai *et al.* Plant Cell 30, 397–414. doi: 10.1105/tpc.17.00420

An N-acetylglucosamine transporter required for arbuscular mycorrhizal symbioses in rice and maize (2017). Nadal *et al.* Nature Plants 3, 17073. doi: 10.1038/nplants.2017.73

Candidates should hold a master degree and have a solid background in basic molecular techniques, ideally including vector design and preparation, and plant transformation. Additional knowledge in biochemistry and cell biology would be welcome. The position is available immediately. The communication language is english.

Applications, including CV, a brief statement of research experience and interests as well as contact information of two referees, should be submitted to Didier Reinhardt (didier.reinhardt@unifr.ch)