

Titre	<p style="text-align: center;"><b>Evolution des gènes symbiotiques à la transition gamétophyte-dominant vers sporophyte-dominant</b></p> <p>Evolution of symbiotic genes at the transition from gametophyte- to sporophyte dominant lifestyles.</p>
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Equipe(s)	Symbiose mycorhizienne et signalisation cellulaire
Résumé	<p>The plant lineage faced two major transitions over the last 450 million years: the colonization of land and the transition from a gametophyte- to a sporophyte-dominant lifestyle, resulting in the divergence of vascular plants. These two events required the evolution of new mechanisms and the recruitment of existing pathways in a new developmental context. The fossil record and its broad host range suggest that the Arbuscular Mycorrhizal (AM) symbiosis evolved in first land plants and was one of the critical innovations that allowed plants to successfully colonize lands. Interestingly, while new developmental features evolved, such as the roots in Lycophytes and Euphyllophytes, AM symbiosis has been maintained.</p> <p>A set of genes required for AM symbiosis in angiosperm has been well characterized and a large-scale phylogenetic analysis indicates that they evolved in first land plants. An intriguing question is to understand how the AM symbiosis got recruited into the newly evolved roots in the first vascular plants. In ferns, both the gametophyte (thallus) and the sporophyte (roots) generation can form the AM symbiosis providing the unique opportunity to study this transition.</p> <p>The student recruited for this internship will 1) develop the fern <i>Pteris vittata</i> as a model to study this transition and 2) determine the role of <i>cis</i>-regulatory elements in the recruitment of the AM-symbiosis in roots.</p>
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