1 Student Helper + 1 BA Thesis

Effect of tree species identity on the resource exchange through mycorrhizal connection

Within the framework of the Research Training Group 2300 "Increasing Tree Species Diversity of Beech Forests through Conifers" (www.uni.goettingen.de/grk2300), the belowground transfer of nutrients trough mycorrhizal connection between young beech and Douglas fir trees is being investigated. Here, the plants will be labeled with ^{13}C-CO_2, and then the isotopic signature will be measured to estimate nutrient uptake and exchange under intra- and interspecific competition. Furthermore, growth and photosynthetic performance of the trees, as well as the exchange of other nutrients via mycorrhizal fungi, will be measured to get an accurate insight into the interactions between beech and the conifer Douglas fir.

Offering:

- **1 BA thesis:** this project will allow to explore and study several interesting topics in plant physiology, for example the effect of intra- and interspecific competition on tree growth and/or photosynthesis, neighbour effect on tree phenology, mycorrhizal colonization and nutrient content, etc... Starting time can be discussed, and can vary according to the preferred topics.
- **1 Student Helper position:** the student will participate in the most important experimental phase of the project when the plants are labeled and then harvested, to measure the isotopic signature in the different plant compartments (roots, shoot, leaves). The contract is planned to cover 60h/month (from mid-July until end of August 2022).

Work place: department of Forest Botany and Tree Physiology, Büsgenweg 2.

Both positions offer the chance to learn useful methods in tree physiology and mycorrhizal studies, to gain experience in how to conduct a scientific experiment, from experimental design to data analysis, as well as the opportunity to work in an interdisciplinary research project.

Wanted:

- High motivation for scientific work and a sense of responsibility for the quality of experimental work.
- Basic English speaking skills (no certificate required).
- Potential candidates should be enrolled at the University of Göttingen.

Contact person:
Michela Audisio, PhD candidate
email:
michela.audisio@uni-goettingen.de

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@enrico_unigoe