

## Master Thesis at WSL in Birmensdorf

# Environmental drivers of distribution and admixture of sympatric white oak species (*Quercus* spp.) at local scale

### Background

The three most abundant oak species in Switzerland (*Quercus robur*, *Q. petraea*, *Q. pubescens*) often co-exist and are known to hybridize. However, little is known about the factors driving the spatial distribution and admixture at local scale.

### Objectives

Here, we will use species-diagnostic SNP markers, high resolution topographic data and *in-situ* soil measurements to identify possible factors driving the spatial distribution and admixture of *Q. petraea* and *Q. pubescens* co-existing in a large stand above Lac Neuchâtel. We are interested in whether the identified patterns of distribution and admixture are driven by random, spatial, and/or environmental processes. If the latter is true, we aim to identify which environmental conditions are favoring which species and their admixture.



### Methods



The thesis will focus on intensive field sampling (2-3 weeks), lab work (DNA extraction), and statistical analysis. The results will be reported in scientific paper format and are planned to be published if successful. We are looking for a motivated and versatile student that likes to be outside (also in bad weather), to co-operate with other team members (in the field and lab), and to dig into data analysis mostly using R.

### Please contact the supervisors if you are interested:

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