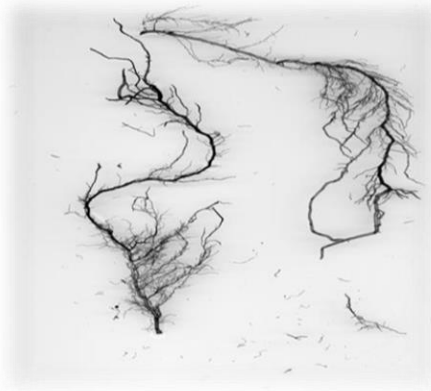


Disentangling the effects of bacteria and fungi on tree growth and establishment

IBL, Above-belowground Interactions Research group

The soil microbial community of the rhizosphere is not only vital for plant growth but also helps shape the morphology of the plants roots. (Akyol et al. 2018). Plants interact with a diverse range of soil biota in the form of mutualists such as mycorrhizal fungi and bacteria that can improve plant and root performance or antagonists such as various pathogens that can cause root damage or even necrosis. Actinorhizal plants such as the tree species *Alnus Glutinosa* exhibit high flexibility in associating with multiple symbiotic partners and can associate with both arbuscular and ectomycorrhizal fungi, but also establishes an association with nitrogen-fixing bacteria. Currently, the extent to which the different fractions of the soil microbiome affect plant growth and establishment in restoration sites is understudied.



Project tasks:

- Test the effectiveness of wet sieving methods in isolating fractions of the soil microbiome.
- Create soil inocula using the different fractions to examine their effects on *Alnus Glutinosa* establishment and growth.

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- Level: Bachelor
 - Recommended for students with a background in ecology, microbiology, plant sciences and/or soil science
 - Techniques: seed germinating, root scanning, microscopy, image analysis, microbial isolation, DNA sequencing
 - Duration: 5 months

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More info at: <http://above-belowgroundinteractions.com/>