BayCEER Kolloquium

Lectures in Ecology and Environmental Research

Winter 2022

UNIVERSITÄT BAYREUTH

Donnerstag/Thursday
10.11.2022
12:15 in H6, GEO

Dr. Hannah Schneider

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Root Phenotypes for Crop Improvement

The functional role and genetic control of many root anatomical and architectural traits are poorly understood. My group's research focuses on characterizing root anatomical and architectural traits for enhanced stress tolerance and identifying genetic mechanisms controlling the expression of root traits. For example, we have identified genes controlling root growth angle and root cortical aerenchyma formation using forward and reverse genetics and have demonstrated the functional utility of these traits for nutrient and water capture. In this presentation, I will discuss several examples of root phenotypes, their function, and genetic control including multiseriate cortical sclerenchyma, root cortical aerenchyma, and root plasticity. We integrate phenomic, genomic, and in silico technologies to characterize root traits and genes associated with their expression that enhance plant productivity and abiotic stress tolerance. The identification of genes and functional phenotypes of root traits will facilitate efforts for the development of novel nutrient and water efficient crop varieties.

Bayreuth Center of Ecology and Environmental Research

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