

PhD candidate – studying chemodiversity and chemical plasticity in poplar (f/m/x)

We are Helmholtz Munich. In a rapidly changing world, we discover breakthrough solutions for better health.

Our research is focused within the areas of metabolic health/diabetes, environmental health, molecular targets and therapies, cell programming and repair, bioengineering, and computational health. We particularly excel in the fields of basic research, bioengineering, artificial intelligence, and technological development.

Through this research, we build the foundations for medical innovation. Together with our partners, we seek to accelerate the transfer of our research, so that laboratory ideas can reach society and improve people's quality of life at the fastest rate possible.

This is what drives us. Why not join us and make a difference?

The [Research Unit Environmental Simulation \(EUS\)](#) ([EUS twitter](#)) focuses on the impact of environmental factors on the biosphere-atmosphere exchange through the simulation of diverse climatic conditions.

In the frame of the DFG-funded Research Unit "Plant Chemical Diversity" we will study in our subproject "Linking Populus nigra metabolotypes to genetic variation and plant-herbivore interactions" the metabolic diversity across tissues under abiotic and biotic stresses aiming to create comprehensive metabolomic networks and understand the phenotypic chemical plasticity and its ecological importance.

The focus of the PhD position is to study the chemical composition of poplar genotypes in different plant tissues under stress and develop a metabolic atlas for this species. This will involve non-targeted and targeted metabolomics analysis using mass spectrometry and creation of metabolomic networks, experiments on automated plant phenotyping platforms and in climate chambers and visits to collaborating laboratories of the RU.

Your tasks

Performance of rhizotron & cuvette experiments

Non-invasive phenotyping of plant traits

Measurement of metabolomes by mass spectrometry (LS-MSMS)

VOCs analysis by (PTR-MS & GC-MS)

Evaluation of metabolome data using multivariate statistics & machine learning approaches

Linking of metabolome data with ecological data

Your profile

University degree in biochemistry, biology, chemistry, analytical chemistry, or a similar professional training

Experience in mass spectrometry

Strong team spirit & willingness to work in an interdisciplinary and multicultural team

Knowledge of programming (R) and multivariate statistics is a plus

Knowledge of ecology is desirable

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