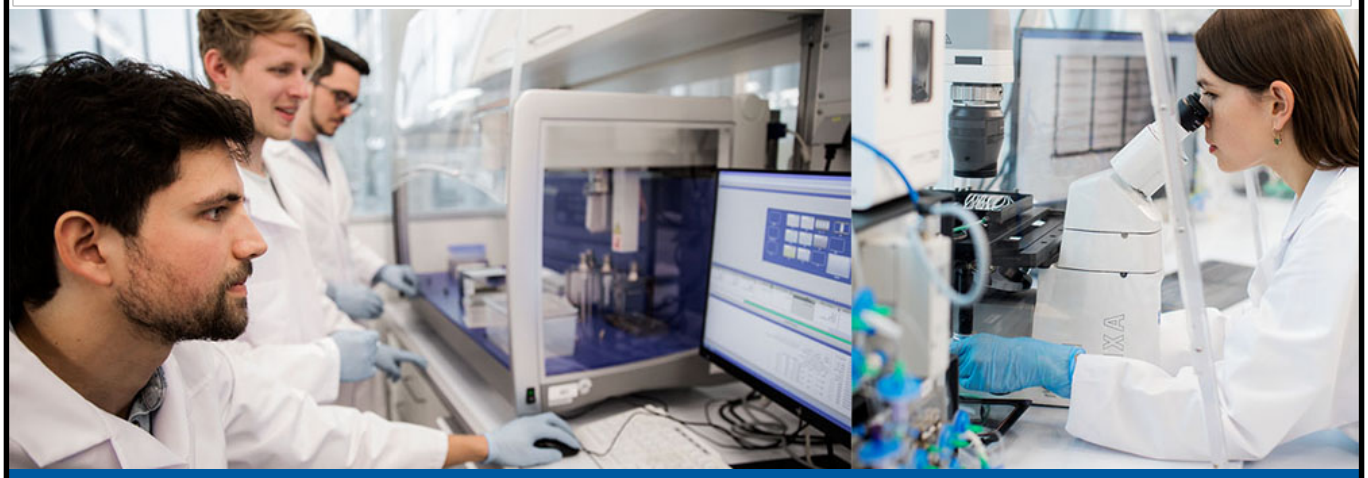
HelmholtzZentrum münchen
German Research Center for Environmental Health



As German Research Center for Environmental Health, Helmholtz Zentrum München pursues the goal of developing personalized medical approaches for the prevention and therapy of major common diseases such as diabetes mellitus, allergies and lung diseases. To achieve this, it investigates the interaction of genetics, environmental factors and lifestyle.

PhD student - Plant Metabolome Analysis (f/m/d) 2020/0002

We offer you a PhD position within the research group "Plant Chemical Diversity" which is funded by the DFG (German Research Foundation) at Helmholtz Zentrum München (HMGU) and other partner institutions. This joint project investigates the basics of plant chemical diversity and its importance for plant interactions with herbivores. The work will be carried out on black poplar (Populus nigra). The focus is on studies of the chemical diversity of volatile and non-volatile metabolites in black poplar and its molecular biological basis. This includes experiments in climate chambers, a field study and the metabolomic and molecular biological analysis of the formation and emission of trace substances.

The PhD position is located in the Research Unit Environmental Simulation (EUS) and is carried out and supervised in close cooperation with the Research Unit Biogeochemistry and Analytics (BGC).

Your Responsiblities

- Carrying out feeding experiments with hervivorous insects and establishing metabolome profiles of different black poplar genotypes using targeted and non-targeted mass spectrometric analyses
- Measurement of the emission of volatile organic compounds (VOCs) by online mass spectrometry (PTR-MS) and GC-MS
- Characterization of the chemical metabolic diversity of non-volatile compounds in black

poplar using UPLC-MS analyses
- Evaluation of metabolome data with the help of mass difference network analysis
- Linking of metabolome data with data from a transcriptomic analysis
- Integration of data in a systems biology approach and application of multivariate statistics and machine learning approaches

Your Qualification

- University degree (M.Sc.) in chemistry, biochemistry or a similar professional training
- Extensive experience in mass spectroscopy
- Basic knowledge in bioinformatics
- High team spirit and willingness to work in an interdisciplinary team

What we offer you

A challenging and versatile field of work providing you with the freedom to follow your instinct and be creative. With the help of extensive and goal-orientated professional development measures and career-building programmes we encourage you to grow as a person. To ensure a good work/life balance we assist you with flexible working hours, in-house health management, a nursery, and an “Elder Care” concept as well as other consultation and support options.

Munich, with its numerous lakes and its vicinity to the Alps, is considered to be one of the cities with the best quality of life worldwide. With its first-class universities and research institutes it offers an intellectually stimulating environment.

Remuneration and benefits are in accordance with the collective agreement for the public service (EG 13 50% TV EntgO Bund). In addition, there is also the possibility of granting an allowance amounting to 15% if the necessary conditions are fulfilled.

The position is (initially) limited to three years.

The activity involves special knowledge and experience specific to own scientific skills.

Having been awarded the "Total E-Quality" seal we endorse a system of equal opportunities. Applications from women are especially welcome. Severely disabled candidates are given preference if they are of equal merit concerning the position in question.

Curious? If you have further questions, simply contact **Prof.Dr. Jörg-Peter Schnitzler** on **089 3187-2413**, who will be happy to be of assistance.

We are looking forward to receiving your comprehensive online application until 14th of February 2020.

Apply now

Prof. Dr. Jörg-Peter Schnitzler

Helmholtz Zentrum München
Deutsches Forschungszentrum für Gesundheit und Umwelt (GmbH)
Research Unit Environmental Simulation
Ingolstädter Landstraße 1

85764 Neuherberg bei München

The award highlights our commitment of gender equality.

The Helmholtz Zentrum München is part of the Helmholtz Association, Germany's largest scientific organization. Altogether 40 000 people currently work in its 19 scientific-technical and biological-medical research centers. The Association's annual budget amounts to around 4.7 billion Euros.

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