



The **MPI for Chemical Ecology in Jena** investigates the role, diversity and properties of chemical signals that control the interactions between organisms and their environment. To understand this complex system of chemical communication, scientists from all over the world work together at our institute.

Master's Student Position

The role of the large pine weevil (*Hylobius abietis*) microbiome in diterpene detoxification

The Department of Biochemistry at the Max Planck Institute for Chemical Ecology is searching for a Master's student to study the interactions between Norway spruce (*Picea abies*), the large pine weevil (*Hylobius abietis*), and its gut microbiome.

At the Max Planck Institute for Chemical Ecology, we investigate the chemical communication between different organisms, including plants, insects, and microbes. Many trees produce chemical defenses to protect themselves from herbivores, such as terpene-rich oleoresin in spruce trees. However, several insect species are able to overcome these toxic defense compounds without apparent negative effects. Bacterial symbionts in the insect gut have been suggested to help their hosts degrade plant defenses.

In this exciting project, we will investigate the role of the microbiome in diterpene detoxification in the large pine weevil. Previous work has indicated that pine weevils have the capacity to degrade diterpene resin acids, a major component of spruce oleoresin, and it has been hypothesized that the insect microbiome is involved in this process.

We are looking for a candidate who is highly motivated, able to work independently, and is curious to learn new skills. Prior laboratory or insect handling experiences are an asset. Spoken and written English proficiency is required.

We offer the opportunity to work in an excellent research facility with an international environment, and gain practical experience using analytical chemistry, microbiology, and molecular biology techniques to answer ecological questions.

Please apply with a cover letter in English outlining your suitability and qualifications for the advertised position and your motivation, as well as your CV, certificates and references by 01. September 2022 via the following link: <https://jobs.ice.mpg.de/nzufr>

