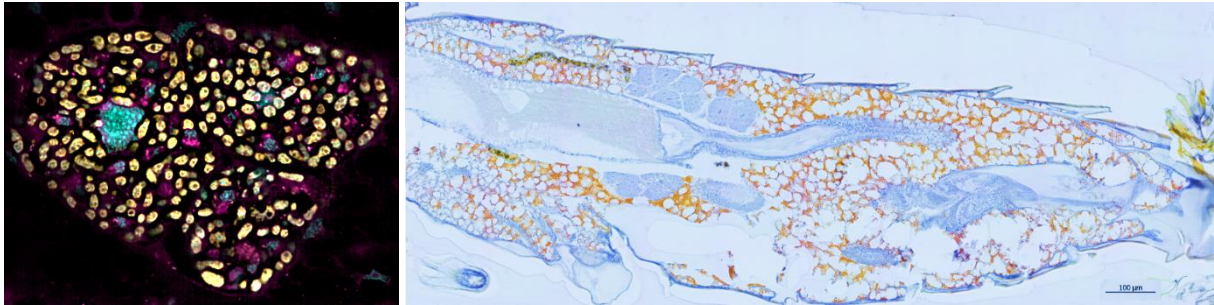


## Two postdoc positions available in insect symbiosis at the MPI for Chemical Ecology in Jena



The Department of Insect Symbiosis at the Max Planck Institute for Chemical Ecology invites highly motivated candidates to apply for 2-year postdoctoral positions (with the possibility of further extension) to study the interface of insect-microbe interactions or the evolution of molecular interactions in insect symbioses.

### **Position 1: The interface of host-symbiont interactions in beetles**

Beetles engage in various symbioses with single or multiple tyrosine-supplementing bacteria that enhance the host's cuticle formation and thereby provide protection from biotic and abiotic stressors. The symbiont's metabolism is under tight host control, but the level and molecular details of control mechanisms and the processes of metabolite exchange are not well understood. However, the high degree of genome erosion in the symbionts and the tight integration of host and symbiont metabolism allow for predicting plausible scenarios and testing them experimentally. The research group Chemistry of Insect Microbe Interactions (Dr. Tobias Engl) in the Department of Insect Symbiosis offers a 2-year postdoctoral position (with the possibility of further extension) to elucidate mechanisms and effectors of host symbiont interactions using a range of techniques across multiple beetle families and associated symbionts.

We are looking for a highly motivated scientist with a PhD degree in biology or molecular biology (or equivalent), excellent English speaking and writing skills and a deep interest in the evolutionary ecology or physiology of insect-microbe interactions. The candidate should bring previous experience in advanced microscopy techniques (fluorescence/confocal, electron, or Raman microscopy). Expertise and experience in molecular biology, insect or microbial physiology, and/or insect or microbial cell culture are desirable.

### **Position 2: Evolution of molecular interactions in beetle symbioses**

Many insects engage in specialized associations with microbial partners that provide nutrients, digestive or detoxifying enzymes, or protective metabolites to their host. In cases where the symbionts are strictly vertically transmitted, they commonly co-diversify with their host and experience rapid reductive genome evolution, resulting in extremely streamlined metabolic capabilities. However, the general patterns of molecular adaptations in both host and symbiont beyond the primary metabolism of the symbionts remain poorly understood. The Department of Insect Symbiosis (Prof. Dr. Martin Kaltenpoth) offers a 2-year postdoctoral position (with the possibility of further extension) focusing on comparative genomics and transcriptomics of host-microbe symbioses in beetles. Within this broader

area, the successful candidate will have the freedom to develop the project according to her/his interests.

We are looking for a highly motivated scientist with a PhD degree in bioinformatics or biology (or equivalent), excellent English speaking and writing skills and a deep interest in the evolutionary ecology or physiology of insect-microbe interactions. The candidate should have a strong background in bioinformatics, with demonstrated experience and expertise in the assembly, annotation, and comparative functional analysis of genomic and RNAseq data.

## **What we offer**

Our department provides a dynamic, diverse, and international working group with broad expertise and state-of-the-art equipment in entomology, microbiology, molecular biology, microscopy and chemical analytics at the Max-Planck-Institute of Chemical Ecology in Jena. The MPI for Chemical Ecology is one of the worldwide leading institutions studying the chemical basis of interactions between insects, plant, and microorganisms. It is embedded into a vibrant research environment in the areas of microbial and chemical ecology as well as biodiversity research, with strong ties to the local Friedrich-Schiller University, the Leibniz Institute for Natural Products Research and Infection Biology, the Germany Center for Integrative Biodiversity Research, and multiple other research institutes in the life sciences and optical physics. Jena is a charming, medium-sized, historic city situated at the river Saale in central Germany.

## **How to apply**

Applications should include a cover letter (1-2 pages) describing the motivation, previous research activities and current research interests of the applicant; the CV of the applicant; and contact details of two referees. Please send all documents as a single PDF file before May 31, 2022 to Dr. Tobias Engl ([tengl@ice.mpg.de](mailto:tengl@ice.mpg.de)) for position 1, or to Prof. Dr. Martin Kaltenpoth ([kaltenpoth@ice.mpg.de](mailto:kaltenpoth@ice.mpg.de)) for position 2. The positions are available at the earliest convenience.

The Max Planck Society and the Max Planck Institute for Chemical Ecology are very committed to equal opportunities, diversity, and gender equality. We actively support a healthy work-life balance and the compatibility of work and family and have set ourselves the goal of employing more severely disabled people as well as groups that are underrepresented in science. Therefore, we explicitly encourage them to apply and welcome applications from all backgrounds.