

Job Advertisement No. 1/2018

The **Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute –** (HKI, www.leibniz-hki.de) investigates the pathobiology of human-pathogenic fungi and identifies targets for the development of novel natural product-based antibiotics. The **Junior Research Group Chemical Biology of Microbe-Host Interactions** invites talented and highly gifted candidates to apply for a

PhD position in Natural Product Chemistry

starting in spring 2018 for three years initially.

Project title: Identification of microbial defensive secondary metabolites and elucidation of their biosynthesis.

Project outline: Our general scientific activity focuses on the biochemical analysis of multilateral symbiotic interactions – in particular chemical signals that orchestrate the interactions between termites, their fungal cultivar, fungal competitors and associated bacteria.

This project focuses on the chemical analysis of genome-sequenced symbiotic bacteria, which have been isolated from a fungus-growing termite nest.

The PhD candidate will first pursue the comparative metabolomic analysis of selected bacterial strains using e.g. co-culture set-ups. The metabolomic analysis can be complemented by genome mining and transcriptional studies. In selected cases, in depth studies of unique biosynthetic enzymes using heterologous expression and *in vitro* assays will be performed.

Main Topics and Potential Tasks

- Comparative metabolomic analysis using LC-(HR)MS and NMR
- Characterization of novel secondary metabolites using NMR, HRMS, IR, etc.
- Identification of novel biosynthetic genes and gene clusters
- real-time PCR of selected regulatory and biosynthetic genes

Requirements

- Expertise in Analytical Chemistry (NMR, HRMS, IR, HPLC, LC-MS) and/or
- Theoretical and practical skills in Molecular Biology
- The candidate should embrace working in a young international research team
- A Master degree (or equivalent) in chemistry and related natural and life sciences. Candidates about to obtain their degree are welcome to apply!
- An integrative and cooperative personality with enthusiasm for actively participating in a lively community of the HKI, the JSMC (www.jsmc.uni-jena.de) and ILRS (www.ilrs.hki-jena.de) Community
- To be able to perform team-oriented as well as independent work
- Very good communication and writing skills (English)

We offer: A highly translational project with a promising career perspective. Highest standard laboratories with state-of-the-art instrumentation and the collaborative and constructive atmosphere at the HKI provide ideal conditions for the success of your project.

We offer you great work opportunities in a dynamic research institute with high reputation. As a doctoral researcher you will be integrated into the structured training of our graduate schools and benefit from the extensive qualification program of the Graduate Academy of the Friedrich Schiller University. The successful candidate will be hosted in the Junior Research Group Chemical Biology of Microbe-Host Interactions.

Salary is paid according to German TV-L (salary agreement for public service employees). As an equal opportunity employer the HKI is committed to increase the percentage of female scientists and therefore especially encourages them to apply.

Further information:

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Complete applications in English should include a CV, a complete list of publications, a brief statement of research experiences, the addresses of two possible referees, and should be submitted by February 25, 2018 via the [online application system](#) of the HKI.