# HKI_19/2019: Bioprocess Engineer/ Bio-physicist (f/div/m)

**Announcement**

The Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute – in cooperation with the Friedrich Schiller University, the University Hospital Jena and the Max Planck Institute for Chemical Ecology are offering an international graduate training programme. The

**International Leibniz Research School (ILRS Jena)**

gives doctoral researchers the possibility to prepare for their PhD exam in an ambitious program providing excellent research conditions. The Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute – (Leibniz-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 **Bio Pilot Plant** invites talented and highly gifted candidates to apply for

# Doctoral Researcher Position (Ref. No. HKI_19/2019)

## Bioprocess Engineer/ Bio-physicist (f/div/m)

**Research Area:**

The research of the Microfluidics Group at the Bio Pilot Plant has been focused on the establishment of a droplet-based microfluidic strategy to exploit microbial diversity and screen with ultra-high throughput for bacteria producing novel natural products. As pioneers in the encapsulation and cultivation of cells and microorganisms in droplets, we are further developing our microfluidic platform to address all the details required for its effective application. To further expand the applicability of our technology and upgrade it with the latest innovations of ultrahigh throughput liquid handling, we initiated, under the frame of the Leibniz Science Campus InfectoOptics, an interdisciplinary cooperation project between the HKI Bio Pilot Plant, the Fraunhofer Institute for Applied Optics and Precision Mechanics IOF and the Leibniz Institute for Photonic Technologies IPHT.

The successful candidate will design, construct and optimize sample multiplexing and droplet deposition equipment for the established droplet microfluidic platform. Additionally, he/she will integrate advanced droplet analytical developed by the project partners into the platform. Work will take place in a dynamic and highly motivated group. Within the group, the Engineer will experience a strong support based on lively collaboration and friendly interaction between the interdisciplinary scientists and access to state-of-art equipment. In addition, the applicant will have all possibilities to realize own innovative ideas and develop new projects while contributing to the organization within the Microfluidics Group.

**Main Requirements:**

- A degree/experience in engineering, physics or related disciplines with basic knowledge of microfluidic principles and techniques
- Strong interest in biological application of microfluidic techniques, enriching the

multidisciplinarity of the group
- Knowledge in electro-optical components for signal acquisition and processing
- Large dataset analysis (MatLab, R studio, others)
- Strong knowledge in design and building of optical constructs and troubleshooting
- The candidate should embrace working in an international, interdisciplinary research team
- Ability for team-oriented as well as creative and independent work
- Very good communication skills in English

**Preferred Skills:**

- Experience in microfluidic research and/or flow cytometry, microsystems or biomedical engineering would be an advantage
- Advanced programming skills in LabView, Arduino, C/C++ for microcontrollers
- Specialized software knowledge (Zemax, Comsol, AutoCAD or other)

The research group is embedded in the outstanding scientific environment of the Beutenberg Campus providing state-of-art research facilities and a highly integrative network of life science and technical science institutes and groups. We offer excellent technical facilities, a place in a committed team, as well as strong scientific collaborations.

As a PhD candidate, the applicant will be a graduate student at Friedrich-Schiller-University Jena and benefit from the extended graduate training of the Jena Graduate Academy and the Jena School of Microbial Communication.

The Doctoral Researcher project is part of the Graduate School Scholarship Program of the German Academic Exchange Service (DAAD). HKI is an equal opportunity employer. The successful candidate will be hosted in the Junior Research Group Chemical Biology of Microbe-Host Interactions.

**Further information:**

Prof. Dr. Miriam Agler-Rosenbaum | +49 3641 532 1120 | career@leibniz-hki.de
Dr. Miguel Tovar | +49 3641 532 1495 | career@leibniz-hki.de
Dr. Christine Vogler | +49 3641 532 1447 | ilrs@leibniz-hki.de

Complete applications in English should include a CV, a brief statement of work experiences and interests, the addresses of possible referees, and should be submitted **by October 31, 2019** via the **online application system**.

**Deadline for application: October 31, 2019.**

**Supervisor**

Miriam Agler-Rosenbaum