Leibniz-Institut für Naturstoff-Forschung
und Infektionsbiologie
Hans-Knöll-Institut

Job Advertisement HKI-36/2020

The **Leibniz Institute for Natural Product Research and Infection Biology – Hans Knoell 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 department **Bio Pilot Plant** invites talented and highly gifted candidates to apply as a

Doctoral Researcher (f/div/m) Microbiology/ Biotechnology

for three years initially with the chance to obtain a doctoral degree.

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 implement ultra-high throughput screening for bacteria producing novel natural products. As pioneers in the encapsulation and cultivation of cells and microorganisms in droplets, we are further developing the utilization of this ultra-high throughput platform for challenging microbiological questions. This is an interdisciplinary cooperation project between the Leibniz-HKI Bio Pilot Plant, industrial and academic partners of the Beutenberg Campus under the frame of the Research Campus InfectoGnostics.

The successful candidate will develop a methodology to detect microbial growth in droplets at very low cell densities, which will subsequently be employed to establish a high throughput assay for the determination of microbial antibiotic resistances. This work will be in tight collaboration with image analysis experts from the research group Applied Systems Biology at the Leibniz-HKI and photonics experts from Fraunhofer IOF. Work will take place in a dynamic and highly motivated group. Within the group, the microbiologist will experience a strong support based on lively collaboration and friendly interaction between the interdisciplinary scientists and access to state-of-the-art equipment. In addition, the applicant will have all possibilities to realize their own innovative ideas and develop new projects while contributing to the organization within the Microfluidics Group.

Main Requirements:

- A degree and excellent experience in microbiology, biotechnology or related disciplines. Candidates about to obtain their degree are welcomed to apply.
- Strong interest in microbiology and techniques for screening microbial activity
- Strong experience in microbial pure culture handling
- Knowledge in optical detection methods and basic knowledge of microfluidic principles and techniques
- 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 single cell research, microbial pure culture studies towards microbial physiology
- Familiarity with microfluidic research and/or flow cytometry would be an advantage
- Knowledge in image processing and analysis
- Basic programming skills in C/C++, OpenCV, Python or Matlab

Leibniz Association

We offer: The successful candidate will be hosted in the department **Bio Pilot Plant** headed by Prof. Dr. Miriam Agler-Rosenbaum. The group conducts innovative cutting-edge research by combining synthetic biology with natural product research and infection biology. The Leibniz-HKI is embedded in the outstanding scientific environment of the Beutenberg Campus providing state-of-the-art research facilities and a highly integrative network of life science groups. We offer a multifaceted scientific project supported by excellent technical facilities, a place in a young, committed team, as well as strong scientific collaborations. The PhD candidate will participate in the structured program of the **International Leibniz Research School** and become an associated member of the **Jena School of Microbial Communication**.

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

Further information:

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Dr. Sundar Hengoju | +49 3641 532 1490 | career@leibniz-hki.de

Applications:

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 October 30, 2020,** via the Leibniz-HKI **online application system**.