

1 PhD Position Available on the Environmental Programming of Lung Macrophages

Host Laboratories:

Prof. Andreas Schlitzer, LIMES Institute, University of Bonn, Germany

Prof. Thomas Marichal, GIGA Institute, University of Liege, Belgium

The PhD student will be embedded in the Schlitzer Lab but will work in close collaboration with the Marichal Lab at GIGA Liege.

Project Description

The Lung is constantly exposed to the environment. However, very little is known about how lung-resident immune cells integrate external information into their functional profile. A heterogeneous pool of macrophages regulates lung homeostasis and immunity at the forefront of environmental exposure.

In this project, we will investigate how interstitial macrophages integrate pathogen-derived and inorganic environmental cues and study how these exposures shape their development, spatial dependencies, and functional specialization.

These aspects of pulmonary macrophage biology will be studied using in vivo models of pulmonary environmental adaptation and cutting-edge spatial proteomics and transcriptomics tools.

We aim to investigate how environmental adaptation influences the functional response of lung macrophages, identifying novel targets for treating chronic lung disease.

We are seeking a highly motivated PhD student to focus on spatial immunobiology, in vivo models of environmental adaptation, and macrophage biology, utilizing spatial proteomics and transcriptomics technologies, as well as flow cytometry.

About us

The Schlitzer Lab is located in the LIMES Institute, a highly interdisciplinary institution that addresses basic research questions in developmental biology, immunology, genetics, and biochemistry. It harbors cutting-edge research facilities to address the most pressing research questions. The Schlitzer Lab is integrated into the Cluster of Excellence Immunosensation, the CRC 1454, and the Research Units 'Infinite' and 'Magnet'.

Your Profile

- The candidate is required to hold an M.Sc. degree in immunology, cell biology, molecular medicine, biochemistry, or a related life science field
- We are looking for candidates with hands-on experience or a strong interest in developing expertise in high-dimensional flow cytometry, confocal microscopy, and bioinformatic analyses (particularly single-cell transcriptomics)
- Experience in mouse work is highly desirable
- Interest in macrophage biology, environmental adaptation and immune: stromal cell interaction
- Excellent communication skills and fluency in English
- Motivation to work collaboratively and across disciplines

We offer

- A thriving academic environment
- Access to cutting-edge technologies including spatial proteomics, spatial transcriptomics, single-cell omics, live imaging, FACS, and high-content organoid systems

- Integration into the Bonn International Graduate School of Immunosciences and Infection
- A professional career development program
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- Participation in the university-wide pension system (VBL)
- Access to an extensive university sports program
- A salary based on the TV-L scale (E13, 65%)

The university is committed to diversity and equal opportunity. It is certified as a family-friendly university. Applications from suitable candidates with a certified disability or equivalent status are particularly welcome.

Application

Please submit the following documents in a single PDF:

- Cover letter (please indicate preference for one lab or openness to both)
- Curriculum vitae
- University transcripts and degree certificates
- Contact information for two academic referees

Please send your application to: Barbara Wiehlpütz (B.Wiehlpuetz@uni-bonn.de)

Deadline for applications: 15th August 2025

Start date: 1. September 2025 or by mutual agreement.

For informal inquiries, you are welcome to contact Prof. Andreas Schlitzer (AndreasSchlitzer@uni-bonn.de).