

PhD position (E13 TV-L, 60%) – Investigating host-pathogen interactions on an endothelium-on-chip device to be filled as soon as possible. The position is initially limited to three years.

The **Loskill lab** in the **Institute of Biomedical Engineering** and the **Bastounis lab** in the **Interfaculty Institute of Microbiology & Infection Medicine** at the University of Tübingen are looking to fill one PhD position (E13 TV-L, 60%) as part of a collaborative research project funded by the Cluster of Excellence “Controlling Microbes to Fight Infections”, CMFI EXC 2124. The earliest starting date for this position will be on 01.09.2022. The position is funded for a period of three years. The available position focuses on deciphering the interactions between host cells and bacterial pathogens in an endothelium-on-chip device.

Specific research project

One way that intracellular bacterial pathogens like *L. monocytogenes* spread systemically *in vivo* is by being carried from tissue to tissue within immune cells. Thus, it is critical to understand how infected immune cells transfer pathogens into endothelial cells or transmigrate through them. By co-culturing endothelial cells with infected macrophages **in an endothelium-on-chip device** that allows exposing cells to (patho)physiological shear fluid flow, we aim to explore the roles (1) of the mechanics of “donor macrophage” versus “recipient endothelial cell” during heterotypic bacterial transfer and (2) of the tensional forces of endothelial cells (that can be thought of as a proxy of the endothelial cell barrier integrity) in regulating infected-macrophage transmigration through the endothelium.

Candidate profile

The ideal candidate preferably brings along a degree that demonstrates an interdisciplinary background in both life and engineering sciences. **A background in microfluidics, micro-fabrication and basic computer programming** (e.g., MATLAB, Python etc.) is necessary to carry out the planned studies and analysis. A background in microscopy and cell biology is a plus but is not a requirement. We are looking for a highly motivated candidate with excellent communication and initiative skills, who is excited to conduct interdisciplinary studies and can team up with the various scientists in the Bastounis lab (<https://www.bastounislab.org>) and in the Loskill lab (<http://www.loskill-lab.com>). We offer work environment that is strongly stimulating with state-of-the-art infrastructure and various facilities (check the [IMIT](#), [CMFI](#) and [NMI](#) websites) which will provide the successful applicant with unique opportunities to develop a strong interdisciplinary portfolio in cell biology, cell and tissue biomechanics, microscopy and microbiology between other.

For further information about the position, please contact Prof. Dr. Peter Loskill and Dr. Effie Bastounis by e-mail at peter.loskill@uni-tuebingen.de and effie.bastounis@uni-tuebingen.de. Applications with a short cover/motivation letter, CV/biosketch, diploma(s) and two contacts for references should be sent via email to both principal investigators.

The University aims to increase the proportion of women in research and teaching and urges suitably qualified women scientists to apply. Qualified international researchers are expressly invited to apply. Disabled persons with equal aptitude will be given preferential consideration.

