

PhD position – Secreted mucins in interstitial lung disease

Doctoral Scholarship

The DFG-funded Collaborative Research Center (CRC 1449) "Dynamic Hydrogels at Biointerfaces" hosted by the **Freie Universität Berlin** comprises a series of theoretical and experimental projects, which aim for the identification and elucidation of physicochemical properties of biological hydrogels (such as mucus and the glycocalyx) that define the protective function of such hydrogels.

The project

We are seeking a highly motivated and committed doctoral candidate for a research project that addresses the role of the airway mucins Muc5ac and Muc5b in the pathogenesis and as a therapeutic target of interstitial lung disease (ILD) using a novel mouse model recently established in the group (Duerr J, et al. *Nat Commun.* 2020). A better understanding of the composition, structure and function of the mucus hydrogel layer on airway surfaces is key to elucidate the underlying disease mechanism and to identify potential therapeutic targets for the development of new therapies for ILD.

The project is integrated in the Collaborative Research Centre (CRC) / Sonderforschungsbereich (SFB) 1449 "Dynamic Hydrogels at Biointerfaces", where several research groups investigate key physicochemical and biophysical parameters that determine hydrogel function at biological interfaces in health and disease for prospective development of novel therapeutic strategies.

The scholarship will be supervised by Dr. Julia Duerr and Prof. Marcus Mall at Charité – Universitätsmedizin Berlin, deputy spokesperson of the CRC 1449. The group's main focus is the investigation of the disease mechanisms and the development of new therapeutic strategies for chronic lung diseases such as ILD and cystic fibrosis (CF) (<https://www.bihealth.org/en/research/research-groups/marcus-mall>). Furthermore, the awardees will become member of the CRC's integrated Research Training Group, which offers:

- Doctoral scholarship with a duration of 12 months and the possibility of a follow up funding within the CRC after ending of the scholarship
- Structured scientific qualification in an established research environment including the participation in a large selection of qualification measures
- Integration in interdisciplinary and interactional research networks
- Possibility for research stays in international labs of the CRC's research network

Your profile

- Excellent master's degree or equivalent in the fields of medicine, biology, biochemistry, biotechnology or related areas
- High proficiency in written and spoken English is a prerequisite
- A strong interest in respiratory physiology and in learning the mechanisms underlying lung disease
- Experience with transgenic mouse models and willingness to work with mice is an advantage
- Experience in cell culture, especially previous work with human primary cell culture models is an advantage
- Knowledge in molecular biology, cell biology, and in transcriptional and epigenetic regulation
- Experience in fluorescence microscopy including confocal microscopy and image analysis is an advantage

We are looking forward to **your application**, which should contain the following documents:

- Letter of motivation (1 page), indicating prior research experiences and future goals
- CV (including list of publications if applicable)
- Copies of your bachelor, master, or diploma degree (including transcript of records)
- At least two support letters

Candidates have to meet the requirements, which would qualify them for entry to a doctoral program at the Charité – Universitätsmedizin Berlin. Students will be chosen on the basis of their previous grades and academic references. The CRC 1449 encourages, in particular, women as well as disabled persons to apply for the scholarships.

Awardees will receive a stipend of € 1.365 per month. An additional material cost allowance of € 103 per month will also be paid. A child care allowance may be granted if applicable. Please visit <http://www.sfb1449.de> for further information.

Applications should be addressed via email until **06/30/2022** to the coordinator of the CRC's integrated Research Training Group: irtg@sfb1449.de. Please send all documents in a single PDF file and refer to the identifier **sfb1449_scholarship_ILD** in your email.

