

Postdoctoral Position / Lung Regeneration / Basement Membrane

HelmholtzZentrum münchen

German Research Center for Environmental Health

CPC



Comprehensive
Pneumology Center

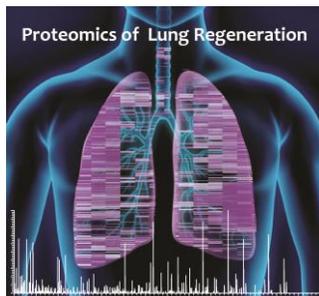
The Helmholtz Zentrum München (HMGU; <https://www.helmholtz-muenchen.de>) - a research institution within the Helmholtz Association of German Research Centers, is a leading center in health research with a focus on Environmental Health. The Comprehensive Pneumology Center (CPC, www.cpc-munich.org) at HMGU is a translational research center dedicated to respiratory medicine, which is also a partner site of the German Center for Lung Research (DZL; www.dzl.de), an association of the leading university and non-university institutions dedicated to lung research in Germany. Using translational research methods, the CPC seeks to develop new approaches for the prevention, diagnosis and therapy of chronic lung diseases, most importantly chronic obstructive pulmonary disease (COPD), diffuse parenchymal lung disease (DPLD), endstage lung disease, or lung cancer.

The Research Group “Systems Medicine of the Extracellular Niche in Chronic Lung Diseases”, established within the HMGU as part of CPC and DZL from October 2015, focuses on mechanisms of tissue regeneration and the role of cell-matrix adhesions in stem cell differentiation (see references below¹⁻⁴). In particular, the group uses and develops quantitative mass spectrometry methods to characterize the compositional changes and the molecular interactions within the pulmonary extracellular niche (e.g. epithelial lining fluid and basement membrane) and their impact on the dynamics of cellular signaling pathways.

1. Schiller, H.B. et al. Time- and compartment-resolved proteome profiling of the extracellular niche in lung injury and repair. *Molecular systems biology* **11**, 819 (2015).
2. Schiller, H.B. et al. beta1- and alphaV-class integrins cooperate to regulate myosin II during rigidity sensing of fibronectin-based microenvironments. *Nature cell biology* **15**, 625-636 (2013).
3. Schiller, H.B. & Fassler, R. Mechanosensitivity and compositional dynamics of cell-matrix adhesions. *EMBO reports* **14**, 509-519 (2013).
4. Schiller, H.B., Friedel, C.C., Boulegue, C. & Fassler, R. Quantitative proteomics of the integrin adhesome show a myosin II-dependent recruitment of LIM domain proteins. *EMBO reports* **12**, 259-266 (2011).

For this purpose HMGU offers a position at the earliest possible date for a

Postdoctoral Scientist - Keywords: *Basement membrane composition and architecture, stem cell niche, lung development, injury and regeneration, proteomics*



Job description: The postdoc should aim at establishing a functional understanding of the spatiotemporal variation of the composition of basement membrane niches along the distal airway tree. In particular, the impact of basement membrane biology on stem cell dynamics upon lung injury and repair shall be addressed. The project will encompass a variety of state of the art methods including immunofluorescence imaging, mass spectrometry driven proteomics and single cell expression analysis, *in vivo* injury mouse models, as well as *in vitro* organoid models.

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Your qualifications: You should hold a PhD in biology, biochemistry, or an equivalent field and have gained profound expertise in the analysis of mouse models, mouse (Cre/lox) genetics, mouse dissection, histology and immunofluorescence imaging during your PhD. You also should have excellent skills in state of the art molecular biology methods (e.g. CRISPR and molecular cloning) as well as statistical data analysis.

Our Offer: We offer you working in a young creative team in an innovative, well- equipped and scientifically stimulating surrounding with a variety of training opportunities (including mass spectrometry based systems biology). The full-time position (TV-L E13) is sponsored by the HMGU for a duration of three years with the possibility of extension. The Helmholtz Center Munich as holder of the Bavarian Advancement of Women Prize and of the Total E-Quality Certificate is striving to increase the overall proportion of women on its staff and thus expressly urges qualified women to apply.

We look forward to receiving your application containing a CV, list of publications, a letter of motivation, as well as names and phone number to two referees via e-mail.

Please send your application to:

Kathleen Junge

E-Mail: cpc-jobs@helmholtz-muenchen.de

Telefon: 089 3187-4698

Helmholtz Center Munich

Comprehensive Pneumology Center (CPC)

Institute of Lung biology and Disease (iLBD)