

PhD position in

Proteome Biology of Solid Tumors: Targeted, Spatially Resolved, and Explorative Approaches

The Schilling laboratory at the Institute for Molecular Medicine and Cell Research, University of Freiburg, Germany (https://www.mol-med.uni-freiburg.de/mom-en/schilling/index_html) is offering an exciting opportunity for a PhD student in a productive and positive research atmosphere. Our research includes

- *Proteomic stratification of solid tumors and their anticipated therapeutic response,* including explorative and targeted proteomics together with “MALDI imaging”.
- *Role of proteolytic enzymes in tumorigenesis and metastasis,* including “terminomic” approaches together with more classical cell biological tools.
- *Development of bioinformatic tools for the improved analysis of LC-MS/MS data,* partially based on the OpenMS framework and its integration into the Freiburg Galaxy environment.

We collaborate closely with the Institute of Surgical Pathology, University Medical Centre, Freiburg, Germany to substantiate the translational aspects.

The laboratory is seeking a highly motivated PhD candidate to work at the intersection of mass-spectrometry based proteomics and cancer pathogenesis.

The project includes targeted proteomics (SRM / MRM / PRM) and spatially resolved proteomics (MALDI imaging). Depending on the development of the project and the interests of the applicant, these techniques will be used to elucidate novel cellular mechanisms in either a translational setting using patient biopsies and/or *in vitro* and *in vivo* models. We welcome applicants with limited experience in proteomics or bioinformatics but who are highly motivated to learn new skills.

The PhD candidate will gain substantial knowledge in applying state-of-the-art proteomic techniques to highly relevant biological questions. We expect that there will be ample opportunities for scientific publishing.

Very good scientific writing skills and fluency (both oral and written) in English are required. You should have a life sciences degree (e.g. biology, biochemistry, molecular medicine, pharmacology). We expect you to have a great, pro-active and open-minded work attitude, a strong interest in translational research, and very good problem-solving skills. The position (TVL-E13, 65%) is available immediately for up to 4 years.

Please email your application to **oliver.schilling@mol-med.uni-freiburg.de** including the name(s) of 1 – 2 referees. Screening of applications will begin by Mar 31st 2018 and continue until the position is filled.

Selected recent publications of the laboratory

- Proteome profiling of clear cell renal cell carcinoma in von Hippel-Lindau patients highlights upregulation of Xaa-Pro aminopeptidase-1, an anti-proliferative and anti-migratory exoprotease.
Drendel V, Heckelmann B, Chen CY, Weisser J, Espadas G, Schell C, Sabido E, Werner M, Jilg CA, Schilling O., *Oncotarget*. 2017
- Identification of Protease Specificity by Combining Proteome-Derived Peptide Libraries and Quantitative Proteomics.
Biniossek ML, Niemer M, Maksimchuk K, Mayer B, Fuchs J, Huesgen PF, McCafferty DG, Turk B, Fritz G, Mayer J, Haecker G, Mach L, Schilling O., *Mol Cell Proteomics*. 2016
- Formalin-Fixed, Paraffin-Embedded Tissues (FFPE) as a Robust Source for the Profiling of Native and Protease-Generated Protein Amino Termini.
Lai ZW, Weisser J, Nilse L, Costa F, Keller E, Tholen M, Kizhakkedathu JN, Biniossek M, Bronsert P, Schilling O., *Mol Cell Proteomics*. 2016