PhD position in *Proteome and Protease 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. Our research includes

- *Role of proteolytic enzymes in tumorigenesis and metastasis,*
  including "terminomic" and "degradomic" approaches together with more classical cell biological tools.
- *Proteomic stratification of solid tumors and their anticipated therapeutic response,*
  including explorative and targeted proteomic analysis together with "MALDI imaging".
- *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 cancer proteomics and protease biology with an additional interest in advanced proteomic data analysis. The project includes targeted proteomics (SRM / MRM / PRM) and spatially resolved proteomics (MALDI imaging) in addition to prototypical shotgun proteomics A substantial interest into these three methods and their application to translational research is of fundamental importance. This should be complemented by an interest into the biology of proteolytic enzymes and/or an interest into the biology of post-translational modifications. Experience with proteomic data analysis and biostatistics (e.g. using R) is an asset.

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). 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 is available immediately for up to 3.5 years. Please email your application to **oliver.schilling@mol-med.uni-freiburg.de** including the name(s) of 1 – 2 referees. Applications should be received by Jan 31st 2018.

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