



Within the DFG funded Priority Programme “µbone – Colonisation and Interactions of Tumor Cells within the Bone Microenvironment“ (SPP 2084)

The research group of Prof. Dr. Franziska Jundt

at the Comprehensive Cancer Center Mainfranken in Würzburg invites applications for a

PhD position in Cancer Research (m/f/d)

to conduct research on the project

“Molecular dissection of signaling pathways exerting bone anabolic and anti-tumor effects of physical stimuli in myeloma bone disease”

commencing on 01.04.2022. A later start may be possible if desired. The position is initially limited to 3 years. We offer a part-time position 65%.

Project:

Multiple myeloma is a malignant plasma cell disorder, in which tumor cells induce osteolytic bone disease. While anabolic treatment of bone disease in malignancies is still a matter of discussion, a non-pharmacological approach to prevent or rescue osteopenia is the use of well-controlled physical stimuli. In this project, we will address lead candidates for a hub orchestrating mechanoresponsive bone remodeling and mediating rescue effects of physical stimulation in myeloma cells and bone cells. Candidates will be proven *in vivo* in respective mouse models where loading conditions are modulated using whole-body low-magnitude high frequency vibration, genetic engineering of myeloma cells and pharmacological modulation of signaling pathways.

Your responsibilities:

- Contribute to the development of project direction, as the project evolves.
- Produce written reports and draft papers.
- Present your results at local meetings and national and international conferences.
- Assist with training other researchers, including Masters' and undergraduate project students.
- Contribute to maintaining the friendly, welcoming and collaborative environment within the group.

Your profile:

- An MSc in Life Sciences (e.g. Biology, Biochemistry, Veterinary Medicine) or related discipline. Candidates in the final stages of obtaining their degree are also eligible to apply.
- Experience with conditional knockout or transgenic mice and handling of animals
- Experimental background in one or more of the following subjects is beneficial: Molecular Biology, Cell Biology, Biochemistry.
- Highly motivated individuals with an interest in joining one of the interdisciplinary research areas of the Priority Programme (SPP 2084)
- The ability to work creatively and independently towards developing your own research project
- English communication skills, both written and spoken

We offer:

- A highly communicative atmosphere within an energetic scientific network
- Cutting-edge research in an international team
- A comprehensive mentoring program and soft skill courses for early career researchers at the Graduate School of Life Sciences at the University of Würzburg
- Würzburg with the UNESCO World Cultural Heritage Site Residence Palace
- A family-friendly working environment with a variety of offers for families
- A wide range of university sports activities

The three year full-time doctoral researcher position (65% TV-L E13) will be funded through the German Research Foundation (DFG). To promote gender equality in science, applications by woman are especially welcome. Candidates with severe disabilities will be given preference in the case of equal qualifications and suitability.

Applications in English should comprise a letter of motivation with a description of scientific achievements and academic goals (2 pages), your CV, abstract of Bachelor / Master theses, contact information of two academic

references, copies of academic certificates. Please submit your application via email (jundt_f@ukw.de) to Prof. Franziska Jundt by 8 March 2022:

<https://www.med.uni-wuerzburg.de/ccf/krebsforschung/molecularly-targeted-therapies/ag-jundt/>

Selected references:

Ziouti F*, Rummler M*, Steyn B, Thiele T, Seliger A, Duda GN, Bogen B, Willie BM*, Jundt F*, Prevention of Bone Destruction by Mechanical Loading Is Not Enhanced by the Bruton's Tyrosine Kinase Inhibitor CC-292 in Myeloma Bone Disease. *International Journal of Molecular Sciences*, 2021, 22:3840. *contributed equally
Rummler M*, Ziouti F*, Bouchard AL, Brandl A, Duda GN, Bogen B, Beilhack A, Lynch ME, Jundt F*, Willie BM*, Mechanical loading prevents bone destruction and exerts anti-tumor effects in the MOPC315.BM.Luc model of myeloma bone disease. *Acta Biomaterialia*, 2021, 119:247-258. *contributed equally
Seefried L, Genest F, Strömsdörfer J, Engelmann B, Lapa C, Jakob F, Baumann FT, Sperlich B, Jundt F, Impact of whole-body vibration exercise on physical performance and bone turnover in patients with monoclonal gammopathy of undetermined significance. *J Bone Oncology*, 2020, 25:100323.