

Open position in the  
Division for Biochemistry of Joint and Connective Tissue  
Diseases, Orthopedic Department, University Hospital of Ulm

**PhD Student Position (65 %, E13)**

**Project: Elucidating the pathomechanisms of compromised fracture healing in osteoporosis: Consequences of mitochondrial dysfunction**

Osteoporosis is a major health problem characterized by compromised bone strength and consequent increased risk of fracture and impaired healing capacities. So far, the underlying pathomechanisms are only poorly understood and pharmacologic approaches are limited. Our project aims on further investigation of the molecular pathomechanisms of osteoporosis, in particular cellular aging and mitochondrial dysfunction, and testing of novel therapeutics strategies to improve bone healing after fracture. The project is part of the **Collaborative Research Centre 1149** (CRC1149) "Danger response, disturbance factors and regeneration after acute trauma" and will be performed in the group of Dr. Jana Riegger-Koch at the RKU ([www.riegger-lab.de](http://www.riegger-lab.de)).

**Activities and responsibilities:**

- human/ mouse primary cell culture, differentiation of mesenchymal stem cells
- molecular biological techniques: gene expression analysis, ELISA, WB, ...
- histology: fluorescence staining, immunohistochemistry (IHC)
- writing publications and presentation of own results on conferences/ retreats

**Qualification profile:**

- master degree in biology, molecular medicine or related field of study
- strong motivation to address bio-medical and pathophysiological questions
- experience in cell and molecular biology, and possibly first insight into animal experiments would be an advantage

**We offer:**

- direct supervision and training in established methods
- close cooperation with other CRC1149 members
- opportunity to join the International Graduate School in Mol. Medicine Ulm
- development your own scientific profile, incl. additional training opportunities
- funding for 4 years (65 %, E13); starting in February 2023

Detailed applications (CV, certificates etc.) should be send until 31<sup>th</sup> of December to Dr. Jana Riegger-Koch via mail: [jana.riegger@uni-ulm.de](mailto:jana.riegger@uni-ulm.de). Please feel free to contact Dr. Riegger-Koch for further information or visit our homepage [www.riegger-lab.de](http://www.riegger-lab.de)

Literature:

- 1: Riegger et al. Cell Death Dis 2019; 10: 683. <https://www.nature.com/articles/s41419-019-1930-5>
- 3: Kirsch et al. Cells. 2022; 11(7), 110. <https://doi.org/10.3390/cells11071106>
- 4: Schoppa et al. DMM. 2022; 15 (5): dmm049392. <https://doi.org/10.1242/dmm.049392>