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The **Laboratory of Molecular Psychosomatics**  
at the **Department of Psychosomatic Medicine and Psychotherapy**  
and the **Department of Internal Medicine 1**  
at the **University of Ulm**  
offers two **PhD Positions** (m/f/d; 65% TV-H E13; 3 years)  
as part of DFG sponsored project beginning as soon as possible.

The Title of the project is:  
**The role of circulating small extracellular vesicles in chronic psychosocial stress/ PTSD-  
related inflammation**

Chronic psychosocial stress/ trauma is a major burden of modern life and poses a significant risk factor for many somatic and affective disorders. Although the pathophysiological mechanisms behind the development of posttraumatic stress disorder (PTSD) are not fully understood so far, an increasing number of preclinical and clinical studies indicate that stress-induced inflammation is involved in disease development. Therefore, all factors facilitating an individual's immune activity are likely to increase their stress/ trauma vulnerability.

A rather novel factor implicated in inflammatory modulation are small extracellular vesicles (sEVs, exosomes), which have recently been identified to have a vital function in propagating inflammation after severe physical trauma. Specifically, the latter is associated with the release of an increased amount of sEVs with altered cargo profile from endothelial cells, which locally and systemically propagate inflammation by transferring pro-inflammatory mRNAs and barrier-destabilizing miRNAs to other endothelial cells. In contrast to the role of sEVs in physical trauma, the sEV functions in the pathogenesis of psychosocial stress-related disorders, like PTSD are still elusive.

The aim of this project is therefore to explore the role of sEVs in the pathophysiology of chronic psychosocial stress/ PTSD-related inflammation.

An ideal candidate has:

- a background in Psychoneuroimmunology or Cell Biology
- sound knowledge in behavioral neuroscience, stress physiology and immunology
- extensive laboratory experience
- experience in working with laboratory animals (preferably with mice); FELASA B certificate would be helpful but not required
- Master (overall grade 2.0 or better according to the German grading system or equivalent)
- excellent English speaking and writing skills; German language abilities are helpful but not required
- high motivation level to participate in goal-oriented research approaches
- strong communication skills
- excellent team working skills

Candidates are expected to join the structured curriculum of the International Graduate School in Molecular Medicine Ulm (IGradU) PhD training program to acquire a PhD or Dr. rer. nat. degree.

Further information about the Laboratory of Molecular Psychosomatics and the Department of Internal Medicine 1 can be found on our homepages

<https://www.uniklinik-ulm.de/psychosomatische-medizin-und-psychotherapie/forschung/sektion-molekulare-psychosomatik.html>

<https://www.uniklinik-ulm.de/innere-medizin-i/forschung-studien/arbeitsgruppen/ag-prof-dr-seufferlein/ag-eiseler-exosomes-in-metastasis-and-inflammation.html>

To apply, please send a full CV, a Letter of Motivation and two Letters of Reference to [dominik.langgartner@uni-ulm.de](mailto:dominik.langgartner@uni-ulm.de) until the 15<sup>th</sup> of June 2025.