



SFB1158 Coordination Office

**Department of Psychiatry and
Psychotherapy**

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6-months Junior Career Research Stipend

To whom it may concern,

10/19/2023 AZ

Project title: Structural alterations in chronic musculoskeletal pain and relationship with affective factors in daily life

Project description: This project will examine structural alterations in patients suffering from chronic musculoskeletal pain. We will compare gray matter density in brain areas including the thalamus and the prefrontal cortex between patients suffering from chronic musculoskeletal pain and matched controls. We will also determine the correlations between structural alterations and motivational/ affective factors in daily life. Moreover, we will also investigate whether early childhood adversity especially in female subjects significantly sensitizes these circuit alterations.

We expect chronic musculoskeletal pain to be accompanied by brain atrophy and suggest that the pathophysiology of chronic musculoskeletal pain includes thalamocortical processes.

Methods to be used: structural MRI, VBM/ FreeSurfer

Key publications:

1. Holz NE, Berhe O, Sacu S, Schwarz E, Tesarz J, Heim CM, Tost H. Early Social Adversity, Altered Brain Functional Connectivity, and Mental Health. *Biol Psychiatry*. 2023 Mar 1;93(5):430-441. doi: 10.1016/j.biopsych.2022.10.019.
2. Berhe O, Höflich A, Moessnang C, Reichert M, Kremer T, Gan G, Ma R, Braun U, Reininghaus U, Ebner-Priemer U, Meyer-Lindenberg A, Tost H. Reduced Real-life Affective Well-being and Amygdala Habituation in Unmedicated Community Individuals at Risk for Depression and Anxiety. *Biol Psychiatry Cogn Neurosci Neuroimaging*. 2023 Jan;8(1):111-120. doi: 10.1016/j.bpsc.2022.06.009.
3. Berhe O, Moessnang C, Reichert M, Ma R, Höflich A, Tesarz J, Heim CM, Ebner-Priemer U, Meyer-Lindenberg A, Tost H. Dose-dependent changes in real-life affective well-being in healthy community-based individuals with mild to moderate childhood trauma exposure. *Borderline Personal Disord Emot Dysregul*. 2023 Apr 20;10(1):14. doi: 10.1186/s40479-023-00220-5

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