UNIVERSITÄTS KLINIKUM jena

Department for Psychiatry and Psychotherapy

Early Career Researchers Talk Series

Tannaz Saraei
University Hospital Jena

Longitudinal brain changes following lifestyle interventions

Thursday 04.04.2024, 13.00 h (1 pm)

Contact

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Zoom-Access Data:

Zoom-Link

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Tannaz Saraei studied Information Technology Engineering (BSc) at Amirkabir University of Technology and Computer Science, Bioinformatics (MSc) at Sharif University of Technology in Tehran, Iran. During her master she worked on machine learning and statistical analysis in biology, specifically cell biology and transcriptomics.

Abstract: With an aging global population, abnormal, rapid cognitive decline in age-related diseases is expected to create big healthcare challenges. Interventions such as modifying lifestyle factors, including physical activity, are a key strategy for improving and maintaining brain-health (Phillips, C. 2017). Several studies using MR-based morphometry techniques suggest that physical activity is a significant modulator of cognitive decline via brain plasticity, functional reorganization and structural adaptation (Bherer, L. 2013, Erickson, K. I. 2011, 2013, May, A. 2006). Training and learning-based exercises are also shown to contribute to these changes not only in young ages but also in elderly at a structural level (Draganski, B. 2004, Boyke, J. 2008). Yet, it is unclear how these interventions differ in their effects. We have therefore performed a longitudinal study on a designed dataset comprising healthy elderly individuals subjected to two different intervention plans, to investigate and compare their brain plasticity changes using structural MRI images.