



SmartAge - European Training Network
Early-Stage Researcher / PhD candidate (ESR project 4)

The **Department of Neurology, Research Group Aging and Plasticity**, at the **University Hospital Jena, Germany**, offers a position for an Early-Stage Researcher (ESR) for the project: **Age-dependent gut-brain interactions in mice: modulation by physical activity**. The position is part of the EU-funded Marie-Sklodowska-Curie Innovative Training Network (ITN) **SmartAge** ("Gut-brain-axis: Targets for improvement of cognition in the elderly") with full-time employment and corresponding salary following the MSCA regulations, starting immediately.

Objective of the project: It is generally accepted that physical activity improves cognition. Here, we will expose aged mice to a voluntary wheel running. We expect cognitive improvement and an impact on the gut microbiome, gut barrier function, and inflammatory response in the brain and gut. After extensive behavioral testing for cognition and motor function, tissue samples (e.g., brain, small and large intestinal contents, feces) will be collected for RNA-Seq and 16S rRNA gene sequencing, as well as advanced metagenomics and plasma metabolomics analyses. Specific markers of gut barrier function and inflammatory processes will be analyzed via qPCR and Western blot. Transfer of feces of post-running mice to age-matched controls will clarify the impact of the microbiome on cognition.

The PhD student will join an existing team with extensive knowledge in aging research, interventional mice studies and behavioural testing, gene expression analysis via qPCR with focus on inflammatory processes.

Requirements for the applicant: We expect a Master's degree (or equivalent) in Health and/or Life Sciences or Medicine. Furthermore, the applicant should be able to perform team-oriented as well as independent work. Desirable methodological skills: background in molecular biology, statistics and experience in animal studies (FELASA). Very good language skills in English are required.

Please note the eligibility criteria for researchers: Candidates must be in the first four years of his/her research career, not have a doctoral degree, and not have resided in Germany for more than 12 months in the 3 years immediately before the recruitment date.

Benefits: We are offering a competitive, interdisciplinary research environment with an extensive training and education program, including workshops, seminars, summer schools, and secondments to our partner laboratories. The successful candidate will be funded with a competitive salary in accordance with the MSCA regulation for Early Stage Researchers, including living allowance, mobility allowance and a family allowance (if married).

Selection process and contact: Please send a motivation letter, a CV including publications (if available), copies of university degrees and courses (including obtained grades), and the names and e-mail addresses of two scientists who can provide references (*all summarized in one pdf*) to smartage@med.uni-jena.de.

Preferential treatment will be given to applications received before 18 September 2022.