



## Thesis Project „Motor Recovery after Stroke“

The neurological research group “Network Plasticity” (PI: Prof. Dr. med. Lukas Volz) at the University Hospital Cologne investigates processes underlying the (re-)learning of motor functions and the (re-)organization of neural networks. To this end, we use structural and functional **MRI** as well as **transcranial magnetic stimulation** (TMS) in both healthy participants and neurological patients.

As part of an ongoing project on motor function and network reorganization after stroke, we are offering a thesis project in the natural sciences. The aim of the project is to better understand the role of different neuroplastic processes in motor recovery after stroke using multimodal imaging and TMS.

A minimum duration of **9 months** is required to allow for thorough training in both methodology and the research topic. The start date is flexible.

### Your key activities:

- Conduct and analyze an independent, well-defined research project
- Assist in the acquisition of MRI and TMS data
- Recruit participants and coordinate study sessions
- Perform literature research on relevant scientific topics
- Carry out statistical analyses and gain experience in Python and/or MATLAB

### Your profile:

- Current enrollment in a university program in Psychology, Neuroscience, Biology, Computer Science, Physics, or a related field
- Detail-oriented, structured, and reliable working style
- Proficiency in MS Office
- Interest in learning statistics and programming
- Proficiency in German (at least B2 level) is required for communication with participants and in a clinical setting

### What we offer:

- Comprehensive training in multimodal data acquisition
- Close supervision throughout the entire project
- Expertise in neuroplasticity and motor recovery after stroke
- An interdisciplinary team of scientists and clinicians
- A collaborative, friendly, and supportive working environment

More information about the research group:

<https://neurologie.uk-koeln.de/forschung/ag-network-plasticity/>

Please send your application (including CV and transcript) as a single PDF to:

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