

Within the Technische Universität Dresden, the Section of Systems Neuroscience is closely associated with the Departments of [Psychiatry](#) and [Psychology](#) and the [Neuroimaging Center](#), which offers excellent research collaborations and infrastructure such as a 3 Tesla MRI scanner for full-time research, MRI-compatible EEG and eye tracking as well as TMS and TDCS. Our international and multidisciplinary group conducts cognitive neuroscience research at the cutting edge to clinical applications. In order to better understand human action control we investigate cognitive processes such as executive functions, learning, decision making, or motivation, and the function of neural systems involved herein. On the clinical side we study how these neuro-cognitive mechanisms contribute to the complex behavioral dysfunctions observed, for example, in addictive behavior.

In its 2<sup>nd</sup> funding period the Collaborative Research Center ([CRC 940](#)) "*Volition and Cognitive Control: Mechanisms, Modulators, and Dysfunctions*" comprises of 14 projects with a budget of over 10 Mill. €. The center combines expertise from experimental and biological psychology, cognitive-affective neuroscience, lifespan developmental neuroscience, clinical psychology and psychiatry to investigate cognitive and neural mechanisms and modulators of volitional control, the development and aging of these mechanisms, and volitional dysfunctions in selected mental disorders. The CRC and the TU Dresden (which is one of the 11 Universities of Excellence selected by the German Research Foundation and the German Council of Science and Humanities) provide an outstanding scientific infrastructure and ideal environment for interdisciplinary cooperation.

Within this CRC, we invite applications for Project B3 on "*Aging and Neuromodulation of Complementary Control Processes*" as:

### **Postdoctoral Fellow in Cognitive Neuroscience (m/f)**

The salary is according to the E13 TV-L dispositions. Contract is initially limited till July 2020.

The project conducts pharmaco-fMRI studies in younger and older adults to investigate how aging may moderate dopaminergic modulation of complementary control processes in tasks subserved by the frontal-hippocampal-striatal circuitries (e.g., perceptual, spatial, and dynamic decision tasks).

The successful candidate will be involved in implementing experimental protocols, computational modeling of behavioral data and model-based fMRI analysis. Furthermore, the successful candidate is expected to undertake project management duties including supervision of Ph.D. students, and student research assistants, data management, and publication of the results. The postdoc will also have the opportunity to contribute to CRC-Project A7 "*Brain States Representing Dynamics of Metacognition*".

#### **Requirements:**

- Doctoral degree (Ph.D. or M.D.) in Cognitive Neuroscience, Psychology, Computational Neuroscience, Medicine, or related disciplines
- Strong background in conducting fMRI experiments and analyzing behavioral and functional MRI data, including knowledge of common software packages (e.g. SPM or FSL, Freesurfer, Matlab, Python, Presentation, Psych-Toolbox).
- Keen interest in experimental approaches to study complex human behavior

#### **The ideal candidate would additionally be characterized by:**

- Expertise in computational modeling (e.g., reinforcement learning, hidden Markov, Bayesian inference methods) of behavioral data
- Experiences with advanced imaging data analyses.
- Programming skills in any common software environment (e.g., MATLAB, Python, E-Prime/Presentation/PsychToolbox)
- Strong publication record
- Sharing our passion to push the limits in understanding the brain

#### **We offer you the possibility of:**

- Being part of the CRC and its scientific activities
- Working in an interdisciplinary team contributing to our understanding of the brain with the particular skills that you already have and will further develop
- Arranging for flexible working hours to find a balance between work and family life

Women are explicitly invited to apply. Handicapped persons will be preferred in case of equal qualification.

Complete applications (including a full CV, transcript of records, statement of research interest (max. 2 pages), and names and contact information for two or three referees) should be sent as one PDF-document via email with 'Application-SFB-B3' in the email subject line to Prof. Dr. Michael Smolka ([systems.neuroscience@tu-dresden.de](mailto:systems.neuroscience@tu-dresden.de)). For more information about the position please contact us via email or telephone (+49 351 463 42201).