In order to advance research on addiction and substance abuse, the German Research Foundation is funding a Collaborative Research Centre (CRC) that encompasses the TU Dresden, Charité Berlin, and CIMH Mannheim. The CRC TRR 265 'Losing and Regaining Control over Drug Intake: From Trajectories to Mechanisms to Interventions' aims at identifying the trajectories of losing and regaining control over drug consumption, studying the underlying cognitive and neurobiological mechanisms, and providing mechanism-based interventions.

The CRC and TU Dresden provide an outstanding scientific infrastructure and an ideal environment for interdisciplinary collaboration. For computational work, the group has access to the TU Dresden high-performance computing clusters. Experiments will be performed at the Neuroimaging Centre (https://nic-tud.de). The Neuroimaging Centre is equipped with a research-only 3T Siemens MRI scanner, MRI-compatible EEG and eye tracking, transcranial magnetic stimulation (TMS), and transcranial direct current stimulation (TDCS) units. All experimental facilities are supported by experienced physics and IT staff.

The candidate will work in the project 'Longitudinal monitoring of cognitive control as a modifying factor of drinking behaviour', a collaboration between the Systems Neuroscience Lab (Prof. Michael Smolka) in Dresden and the Max Planck UCL Centre for Computational Psychiatry (Prof. Raymond J. Dolan) in London, under the direct supervision of Dr. Lorenz Deserno. The aim of the project is to identify cognitive trajectories related to losing and regaining control over everyday drinking behaviour. We will investigate these issues by using a smartphone application for longitudinal ambulatory assessment of cognitive control and decision-making over one year, in a cohort of 900 individuals. The position is ideal for candidates with a strong background in Cognitive and Computational Neuroscience and an interest in interdisciplinary clinical research.

For this project, the Systems Neuroscience Lab invites applications for a

Postdoctoral Fellow / E13 TV-L 100% (f/m/d)

The position is based on a fixed-term contract ending June 30th, 2023.

Your tasks:
- Preparing and conducting behavioural smartphone-based tasks
- Analysing longitudinal behavioural data of smartphone-based tasks
- Computational modelling of such smartphone-based behavioural data supported by experienced modelling group (mainly in the context of Reinforcement Learning)
- Preparing manuscripts and presenting results at conferences

Your profile:
- Doctoral degree in Computational Neuroscience, Cognitive Neuroscience, Psychology, Medicine, or related disciplines
- Strong background in conducting and analysing behavioural data, ideally with regard to longitudinal data (multilevel regression models, structural equation models)
- Additional experience with MRI data is a plus, e.g. knowledge of common software packages (e.g. SPM, Psych-Toolbox etc.)
- Solid Programming skills in Matlab, R or Python
- Keen interest in experimental approaches to study complex human behaviour

We offer you:
- Being part of the CRC and its scientific activities
- Working in a highly interdisciplinary team with leading scientists in addiction research and computational cognitive neuroscience.
- The unique possibility for international exchange with the Max Planck UCL Centre for Computational Psychiatry and Ageing Research

We look forward to receiving your complete application (one PDF-document including a cover letter with a brief summary of research interests, full CV, and two references). Please contact: Prof. Michael Smolka (michael.smolka@tu-dresden.de).