

## Master Thesis in Cognitive Affective Neuroscience

### Development of a Behavioral Experiment for the Investigation of Goal-Directed and Habitual Behavior

#### Description:

The chair of neuroimaging is looking for motivated Master students in Cognitive Affective Neuroscience for a Master thesis in the field of computational cognitive modeling. The goal of the thesis is to devise a new experimental paradigm for the investigation of the arbitration between goal-directed and habitual behavior. The student will work in close collaboration with theoreticians and computational modelers, as the new experiment will serve to investigate several theoretical approaches of Bayesian arbitration between goal-directed and habitual behavior. The Master thesis will be associated with the collaborative research centre „Losing and Regaining Control over Drug Intake“. In the long term, mechanistic explanations for conflicts of goal-directed and habitual behavior could help in treatment and prevention of substance use disorders.

#### We offer:

- An international research environment working on the newest methods in Bayesian cognitive modeling
- Close contact with and support by the supervisors, M.Sc. Sascha Frölich and Prof. Dr. rer. nat. Stefan Kiebel

#### Requirements:

- Interest in modeling approaches, especially computational modeling, to behavioral research questions
- Interest in the theory of decision making (Markov Decision Processes, Reinforcement Learning, Bayesian Inference)
- The ability to work autonomously and independently
- Creativity

If interested, or in case of any further questions, please don't hesitate to contact [sascha.froelich@tu-dresden.de](mailto:sascha.froelich@tu-dresden.de)

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