

## **Metacognition of action: behavioural and brain bases**

Initiative: Freigeist-Fellowships

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Laufzeit: 5 Jahre

Projekt-Website: <http://metamotorlab.filevich.com/>

As humans, we can monitor and report that we have perceived an event generated in the external world. We can also accurately report mental states generated internally like the contents of our thoughts, the focus of our attention or our intentions to move. This ability to monitor diverse cognitive functions is called metacognition and, despite its importance, its underlying brain mechanisms remain largely unknown. Studying metacognition is not straightforward. In the perceptual domain, researchers typically present carefully controlled stimuli to experimental participants, in order to measure metacognitive ability independently from the associated perceptual ability. Studying metacognition of internally generated processes is even more challenging because - almost by definition - these cannot be experimentally controlled. The project takes on this challenge and asks to what extent we can monitor our motor intentions, preparation and execution. It then seeks to identify the brain mechanisms underlying this ability. It will ask whether, and to what extent, the principles of perceptual metacognition of externally generated stimuli apply to internally generated processes. By studying the brain mechanisms that support metacognition of internal processes the project will contribute to understanding what makes each one of us an individual "me".

### **Projektbeteiligte**

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