

Presentation

Habilitation topic

Dr. Hans Kirschner

COMPUTATIONS AND MECHANISMS OF DECISION MAKING AND COGNITIVE CONTROL

Successful goal-directed behavior requires organisms to continuously update their beliefs and adjust their actions in response to changing environmental demands.

In this talk, I will report on a series of complementary studies that examine adaptive control across computational, neural, pharmacological, and clinical levels of analysis. Together, these studies show that learning-rate dynamics are shaped not only by environmental demands but also by task-irrelevant influences, neuromodulatory mechanisms, and psychopathology, and that adaptive behavior further depends on dynamic regulation of decision thresholds over time. By combining computational modeling with single-trial EEG, pharmacological manipulation, and transdiagnostic approaches, this work provides converging evidence for multi-timescale mechanisms that jointly govern belief updating and decision policy regulation.

10.03.2026

05:00 p.m.

**main campus
G16 – room 054**