



**University of  
Zurich** <sup>UZH</sup>

## Department of Economics – Neuroeconomics Seminar

**May 7, 2026 - 17:00 - 18:00**

Quentin Huys  
University College London

### **Computational specificity in psychotherapeutic intervention**

Computational psychiatry attempts to translate advances in computational neuroscience and machine learning into improved outcomes for patients. Here, I describe recent work on mechanistic approaches to support the correct assignment of psychotherapeutic interventions to individuals. Psychotherapies are one of the core treatment options available for depression. However, despite an extensive theoretical basis for interventions, our understanding of the underlying mechanisms mediating treatment response remains poor. Recent work suggests that a combination of computational models and cognitive tasks may enable the measurement of the cognitive processes engaged by therapies. Critically, for the case of cognitive-behavioural therapy for depression, we find a double dissociation, with effort-reward tradeoffs engaged preferentially by behavioural activation, and learning about attributions preferentially altered by cognitive restructuring. This dissociation is substantiated across a series of studies, including digital therapy settings, NHS Talking Therapy settings, and the development of novel cognitive bias modifications. The talk will close with a wider discussion of measuring mechanisms of actions relevant to interventions in depression.