

## Bonn Melbourne Seminar in Decision Making and Computational Psychiatry

**“Now you see it... now you don’t: Temporal fluctuations in perceptual inference and their role in psychosis”**

Prof Philipp Sterzer (Basel University Psychiatric Clinics, Switzerland)

### Abstract

According to predictive-processing theory, psychotic experiences can be explained by altered inference mechanisms characterized by an overweighting of external sensory data relative to internal predictions. While this account is supported by a large body of behavioural and neuroimaging data, it is unclear how a constant alteration of inference mechanisms might explain the temporal dynamics of psychotic experiences, which often unfold as short-lived events spanning from seconds to minutes. I will propose that the volatile nature of psychotic experiences may be explained by spontaneous fluctuations between two opposing modes of inference, during which perception is driven predominantly either by internal predictions or by external sensory data. I will present evidence from psychophysics, computational modeling and pharmacological intervention studies showing that such fluctuations are a ubiquitous phenomenon that can be observed across different forms of perceptual decision-making and different species; and that NMDA-receptor hypofunction, a candidate mechanism for schizophrenia, may facilitate psychotic experiences by causing a shift in the balance between internal and external modes of inference.

**Thursday, 6<sup>th</sup> June 2024, 9am (CEST)**

<https://uni-bonn.zoom.us/j/67862809703?pwd=WHM3b3lIUeFJYY2x0ekxLZUhxS3UvUT09>

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