



Departmental Seminar

Effects of Ketamine on Cognition and Brain Function



Prof. Ulrich Ettinger
Professor
Department of Psychology
University of Bonn

2:45p.m. – 3:45p.m.

Chamber, 11/F

The Jockey Club Tower

Centennial Campus

The University of Hong Kong

Abstract

This talk will present an overview of pharmacological fMRI studies examining the effects of ketamine on brain function, cognition, and oculomotor control in healthy humans, with particular emphasis on established biomarkers of schizophrenia and the validity of the ketamine model of psychosis. The findings suggest that ketamine provides a promising, though incomplete, model of psychosis, as only a subset of known oculomotor biomarkers was reproduced. In particular, ketamine induced a robust deficit in smooth pursuit eye movements, accompanied by reduced BOLD activity in visual and oculomotor regions, whereas inhibitory control in the antisaccade task and its neural correlates remained largely unaffected. Beyond oculomotor function, ketamine also impaired metacognitive performance across episodic memory and perceptual decision-making, reducing metacognitive sensitivity without reliably affecting primary task performance or response speed, and altering neural activity and connectivity during confidence evaluation. Together, these findings provide partial support for the ketamine model of psychosis and highlight a role for glutamatergic signaling in metacognitive processes.

About the Speaker

Ulrich Ettinger is Professor of Cognitive Psychology and Experimental Clinical Psychology in the Department of Psychology at the University of Bonn, Germany. He studied psychology at Goldsmiths College and neuroscience at King's College London, UK, and obtained his PhD on oculomotor endophenotypes of schizophrenia from the University of London in 2003. Following his PhD, Ulrich held a number of postdoctoral positions including a Richard H. Tomlinson Postdoctoral Research Fellowship at the Department of Psychology and Douglas Hospital, McGill University, Montreal, Canada, and fellowships from NIHR, ESCR and MRC (UK) at King's College London. In 2009, he became head of an Emmy Noether Group, a DFG funded junior researcher programme, at the University of Munich, and in 2012 he was appointed professor at the University of Bonn. His research applies experimental, psychometric, neuroimaging and pharmacological approaches to the study of cognition and brain function in healthy individuals and those with psychiatric disorders.

Zoom Meeting (For participants who couldn't attend the Seminar in person)

<https://hku.zoom.us/j/97249974455?pwd=OpbrYLM205xulsvabuvAJw8AM81a59.1>

Meeting ID: 972 4997 4455 Password: 774081

~ All are Welcome ~

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