



**SFB 1315**

Mechanisms and Disturbances in Memory Consolidation:  
From synapses to systems

Tuesday

**MAY 14, 2024**  
**4:00 pm CET**

SFB1315.ifb@hu-berlin.de  
ZOOM ID: 7754910236

**SFB 1315 LECTURE SERIES 2024**

# NEURAL REPLAY, SHARP WAVE RIPPLES AND COGNITION

**RAY DOLAN**

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**An ability to build structured mental maps of the world is central to human intelligence.**

In rodents, the consolidation and extension of cognitive map representations is supported by sequential hippocampal place cell reactivations during rest, known as replay. These events occur in the context of transient high frequency ripple oscillations in the hippocampal local field potential, and default mode network (DMN) activation at the whole brain level.

**Recent developments in my lab now enable a precise measurement of neuronal representations in humans, including their fast sequential reactivation (neural replay). I will consider the role of replay in relation to human cognition, including how different types of replay support discrete function, as well as the implications of disorganized replay.**

## About the Speaker

Ray Dolan is a Mary Kinross Professor of Neuropsychiatry and Director of the Max Planck Centre for Computational Psychiatry and Ageing, at UCL. His primary research interests include reward, learning and decision making and their breakdown in psychopathology. He holds an honorary Professorship at the Humboldt University Berlin and is an External Member of the Max Planck Society. He is a Member of the Royal Irish Academy (MRIA) and a Fellow Royal Society (FRS). He is the recipient of numerous international awards including the Minerva Foundation Golden Brain Award, (2006), the Max Planck International Research Award (2007), the Klaus Joachim Zülch Prize (2013) and the Brain Prize (2017). He was awarded the 2019 Royal Society Ferrier Medal and Lecture.

This talk is co-hosted by Dietmar Schmitz and Matthew Larkum (A01/A04). Dietmar Schmitz will introduce the speaker. Q&A will be moderated by SFB1315 Speaker Matthew Larkum.

## Certificate of attendance:

Please contact team assistant  
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