



SFB 1315

Mechanisms and Disturbances in Memory Consolidation:
From synapses to systems

Tuesday

DEC 19, 2023
4:00 pm CET

BCCN Lecture Hall

Philippstr. 13, Berlin

ZOOM ID: 7754910236

SFB1315.ifb@hu-berlin.de

SFB 1315 LECTURE SERIES 2023

DISORGANIZED SPIKE TIMING AS AN EARLY FEATURE OF ALZHEIMER'S DISEASE

SILVIA VIANA DA SILVA

Junior Group Leader

Cellular Circuits of Memory

Deutsches Zentrum für Neurodegenerative Erkrankungen

c/o Charité – Universitätsmedizin Berlin



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Deficits in spatial navigation are among the early symptoms in Alzheimer's disease patients, consistent with the hippocampal formation as the site for spatial computations and disease onset.

Although the correspondence between the early symptoms and brain regions that are affected early in the disease has been recognized, it is not clear whether progressive cognitive decline is solely caused by a spreading pathology or whether a focal pathology can by itself cause aberrant neuronal activity in a larger network.

In this talk, I will explore how deficits in spatial navigation can arise from alterations in temporal dynamic patterns of single cells in relation to brain oscillations such as theta oscillation during navigation and sharp wave ripples during offline periods of memory consolidation.

I will show how sequential firing during the behavior task is essential for intact navigation and how compression of temporal sequences of place fields within individual theta cycles permits the use of synaptic plasticity for learning of sequential structure, thereby giving a temporal

dimension to hippocampal memory traces.

About the Speaker

Silvia Viana da Silva is Junior Group Leader of "Cellular Circuits of Memory" at the Deutsches Zentrum für Neurodegenerative Erkrankungen e.V. (DZNE). This invited talk is hosted by SFB1315 Speaker Matthew Larkum (A04), who will introduce the speaker.

Certificate of attendance:

Please contact team assistant serenella.brinati.1@hu-berlin.de



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