SFB 1315
Mechanisms and Disturbances in Memory Consolidation:
From synapses to systems

Tuesday

**FEB 10, 2026**
**4:00 pm CET**

**BCCN Lecture Hall**
**Philippstr. 13, Berlin**
**ZOOM ID: 7754910236**

SFB1315.ifb@hu-berlin.de

**SFB 1315 LECTURE SERIES 2025-2026**

# WHAT IF THERE IS NO SYSTEMS CONSOLIDATION?

## MEMORY DYNAMICS OVER TIME COULD REFLECT THE INTERPLAY OF MULTIPLE FORMS OF MEMORY ENGRAMS


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**Systems consolidation is a hypothetical process by which memories gradually transition from initial dependence on the hippocampus to long-term representation within distributed neocortical networks. More recent views of systems consolidation concede that detailed memories are always hippocampal-dependent but maintain that neocortical memories, even generalized schematic ones, only gradually become hippocampal independent.**

In this talk, I argue that "systems consolidation" may be a misnomer. Memory is better conceived as multiple interactive systems in constant flux. Different representations (e.g. detailed event memories, event-specific gist, schemas, and abstract semantics) coexist and can be created or modified at the time of encoding. Which representation is expressed depends on goals, attention, context, and prior knowledge.

**Memories are dynamically shaped through bidirectional interactions: neocortical traces can be influenced by the hippocampus, and hippocampal traces are shaped by cortical knowledge. These interactions continue throughout the lives of memory engrams. There is no unidirectional, time-dependent migration of memory traces; only synaptic consolidation and reconsolidation modulated by interactions among neural representations. Because research has often focused on detailed hippocampal memories, early cortical contributions have been underestimated, leading to the mistaken impression of a unidirectional systems consolidation process.**

### About the Speaker

Asaf Gilboa completed undergraduate studies at the Hebrew University in Jerusalem, majoring in Psychology, an M.A. in Clinical Neuropsychology from the Hebrew University and Ph.D. in Psychology and Neuroscience from the University of Toronto. He is currently a Senior Scientist at the Rotman Research Institute at Baycrest, Full Professor in Psychology at the University of Toronto and Affiliate Scientist at the Toronto Rehabilitation Institute.

The Gilboa Lab currently investigates underlying aspects of neurological and neuropsychiatric memory disorders using various methods (lesion analysis, fMRI, Skin conductance, ERP and MEG).

In addition to numerous scientific publications, Asaf Gilboa is the recipient of several awards including the Dusty and Ettie Miller Fellowship for Outstanding Young Scholars and the Donald T. Stuss Award for Research Excellence.

**This invited talk is hosted by** SFB1315 project B05 (Dr. Deetje Iggena). SFB1315 Speaker Matthew Larkum (A04, A10, Z), will moderate Q&A.

**Certificate of attendance:**
Please contact team assistant serenella.brinati.1(at)hu-berlin.de

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