SFB 1315

Mechanisms and Disturbances in Memory Consolidation:
From synapses to systems

SFB 1315 LECTURE SERIES 2024

USING PRIOR KNOWLEDGE TO BUILD NEURAL REPRESENTATIONS, MAKE PREDICTIONS AND ENCODE MEMORIES

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USING PRIOR KNOWLEDGE TO BUILD NEURAL REPRESENTATIONS, MAKE PREDICTIONS, AND ENCODE MEMORIES

Our everyday experiences consist of familiar sequences of events in familiar contexts, and we use our memories of the past to understand the present and make predictions about the future. This prior knowledge can consist of specific past episodes, multiple memories linked together, or schematic mental models that have been distilled from many past experiences.

I will present recent work from my lab, using a combination of behavioral, eye-tracking, and neuroimaging methods, on the mechanisms by which we can use knowledge of temporal structure to generate predictions, organize experiences into events, and construct durable memories.

Our studies employ stories, movies, virtual reality, and games, allowing participants to draw on their knowledge of the world or build detailed expertise in controlled yet naturalistic domains.

These studies argue for a central role of top-down and anticipatory processes in constructing high-level representations of events in the brain and creating durable sequence memories.

About the Speaker

Chris Baldassano leads the Columbia Dynamic Perception and Memory Lab at Columbia University's Department of Psychology. "*The Dynamic Perception and Memory Lab studies how we can understand and remember the complex world of our everyday lives. Through experiments using narratives, movies, and virtual reality, we investigate how experiences are divided into events, summarized, associated, and recalled. Our current projects are specifically focused on how our prior knowledge about the temporal and spatial structure of the world influences our construction of mental representations.*" (https://psychology.columbia.edu)

This online talk is hosted by (B05), who 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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