

## Neural signatures of complex and real-life memories

Thursday, September 11, 2025 11:00 AM (1h 30m)

Recent advances in cognitive neuroscience increasingly focus on how memory functions in response to rich, temporally extended experiences that approximate the complexity and continuity of everyday life. This symposium brings together recent EEG and fMRI studies investigating the neural correlates of episodic and semantic memory using ecologically grounded paradigms and stimuli, including naturalistic scenes, autobiographical recollections, and structured narratives such as films and television series.

The featured contributions converge on a central question: how does the brain support memory for complex, real-world-like stimuli and events embedded in meaningful contexts?

One study examines the recognition of naturalistic visual scenes, highlighting how object-context congruence shapes memory encoding and retrieval. Another investigates the retrieval of autobiographical experiences, shedding light on the neural dynamics underlying the vivid re-experiencing of emotionally and temporally salient events. A third explores how the brain represents different types of episodic content—spatial layouts, object and character details, temporal sequences, and dialogues—elicited by narrative stimuli. Further contributions explore how the brain encodes the temporal structure of events and how semantic networks are formed and generalized through repeated exposure to structured narratives, such as films and tv-series.

By integrating spatially and temporally resolved neural data, these studies provide insight into how distributed brain systems support the encoding, retrieval, and organization of memory in contexts that closely resemble real-life experience. Together, they advance our understanding of memory as a dynamic, multidimensional, and context-sensitive process, and offer methodological innovations for studying memory in settings that reflect the richness of everyday human experience.

### If you're submitting a symposium talk, what's the symposium title?

Neural signatures of complex and real-life memories

### If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?

No

**Primary author:** Dr TOSONI, Annalisa (Dipartimento di Psicologi, Università di Chieti-Pescara)

**Co-author:** Prof. SESTIERI, Carlo (Dipartimento di Neuroscienze, Imaging e Scienze Cliniche, Università di Chieti-Pescara)

**Presenter:** Dr TOSONI, Annalisa (Dipartimento di Psicologi, Università di Chieti-Pescara)

**Session Classification:** Neural signatures of complex and real-life memories

**Track Classification:** Memory