



UNIVERSITÀ
DI TRENTO

CiMeC
Center for Mind/Brain Sciences



European Research Council
Established by the European Commission

WORKSHOP: STRUCTURING KNOWLEDGE: NEURAL AND COMPUTATIONAL PERSPECTIVES

Organized by CIMEC (The University of Trento)

16-17/09/2026

Ex-Manifattura Tabacchi, Rovereto

Conference room, 1st floor, building 10

The discovery of cognitive maps transformed our understanding of spatial navigation. Growing evidence now suggests that the same computational principles may also organize concepts, memories, and other forms of abstract knowledge, extending beyond the hippocampal formation to distributed neural systems. This workshop brings together leading researchers in neuroscience, cognitive science, and computational modeling to discuss how the brain structures knowledge and whether common principles underlie learning, memory, and intelligent behavior across domains.

SPEAKERS:

- Maddalena Boccia (University of Rome, La Sapienza)
- Roberto Bottini (University of Trento)
- Rory Buffacchi (EMBL, Roma)
- Avital Hahamy (University College London)
- Ben Hayden (Baylor College of Medicine, Huston)
- Maurizio Mattia (Istituto Superiore di Sanità, Roma)
- Giovanni Pezzulo (CNR, Roma)
- Manuela Piazza (University of Trento)

ORGANIZING COMMITTEE:

Roberto Bottini, Marco Ciapparelli, Alexander Eperon, Giuliano Giari

RESERVATION AT

This [link](#)

SCHEDULE

WEDNESDAY 16/9

14:00 – 14:30	Registration	
14:30 – 15:00	Introduction	
15:00 – 15:45	Avital Hahamy	The neural basis of understanding unfolding experiences
15:45 – 16:30	Ben Hayden	Neural basis of generalization and differentiation
16:30 – 17:00	Coffee break	
17:00 – 17:45	Maurizio Mattia	Geometric cognitive maps for serial inference in premotor cortex
17:45 – 18:30	Manuela Piazza	Space as the fabric of thought: evidence from conceptual- semantic processing

THURSDAY 17/9

08:30 – 9:00	Registration	
9:00 – 09:45	Roberto Bottini	Actionable cognitive maps for spatial and conceptual thinking
09:45 – 10:30	Maddalena Boccia	Navigating the personal past: Neural and cognitive mechanisms of autobiographical memory representation
10:30 – 11:00	Coffee break	
11:00 – 11:45	Rory Buffacchi	Egocentric value maps of the near-body environment
11:45 – 12:30	Giovanni Pezzulo	Learning hierarchical cognitive maps and schemas for goal- directed navigation.
12:30 – 13:00	Closing Remarks and Farewell	