Conceptual semantics as grounded in personal experience

Marco Tettamanti – IRCCS San Raffaele Scientific Institute (Milan, Italy)

The idea that the organization of conceptual knowledge in semantic memory closely reflects the quality of personal experience with the concepts' referents is congruent with theories that propose to ground cognition in distributed sensory-motor and experiential neurocognitive systems. Converging evidence from the cognitive neurosciences indicate that the interplay between, on the one side, memory and language core networks and, on the other side, grounded distributed networks is not an automatic but rather a dynamic process, which depends on the specific task as well as on the sentential linguistic context encompassing conceptual-semantic information. I will present neuroimaging and behavioral data suggesting that sensory-motor and other grounded cognitive systems flexibly interact with perisylvian memory and language areas, yielding specific configurations and connectivity patterns that reflect nuances of meaning. I will also show how these grounded representations are modulated by syntactic structure and by the level of perceptual awareness. The emerging generalized grounded cognition framework of conceptual-semantic processing emphasizes the functional role of distributed sensory-motor and experiential neurocognitive systems that are differentially involved, depending on the specific semantic features and meanings of the concepts' referents and on the lexical and grammatical sentential format used to express them linguistically.