



SENSORY ENCODING AND THE EMERGENCE OF MEMORY

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Neural signatures of crossmodal illusions and multisensory integration

Picture yourself walking through a busy shopping mall. To successfully navigate through the crowd, sensory information needs to be continuously processed and integrated. Perception of our environment relies on integrative processing of information across the different sensory modalities and there is increasing evidence that neural oscillations play an important role therein. In this talk I will present data from recent electrophysiological studies that have improved our understanding of the spatiotemporal dynamics underlying crossmodal illusions and multisensory integration. The studies suggest that multisensory perception is formed during at least two successive integration stages: an early and a late stage. Early multisensory integration primarily relies on stimulus properties and follows the well-known principles of multisensory integration. During late integration perception is built, e.g., by resolving stimulus ambiguities across sensory modalities in multisensory illusion paradigms. Taken together, there is evidence that multisensory perception is shaped by neural processes, involving neural oscillations, during a temporal integration window. I will also show that memory load influences perception-related neural oscillations during multisensory integration.

