Implicit and explicit Statistical Learning during the Analysis of Visual Scenes: Evidence form Contextual Cueing

Abstract : How does the visual system prioritize the relevant information for further processing? By structuring the world and by making it coherent and predictable, Statistical Learning would play a key role in object recognition, scene identification, attentional guidance and navigation in complex, dynamic environments. Statistical Learning refers to an unconscious cognitive process in which repeated patterns, or regularities, are extracted from sensory inputs. In this regard, the Contextual Cueing paradigm constitutes an elegant way to understand how learning mechanisms can detect contextual regularities during visual search, allowing an optimization of basic visual processing and/or attentional deployment in subsequent encounters. In this presentation, I will review and discuss the main mechanisms likely to be involved in contextual cueing phenomena, as well as the implicit vs. explicit nature of learning that take place.

Short bio : Since September 2015, Annabelle Goujon is lecturer in Cognitive Sciences at the University of Bourgogne Franche-Comté. Her research covers different domains, that is, the Perception of visual scenes, Implicit learning, Statistical learning and Contextual cueing. More recently, her works aim at investigating more specifically how implicit and explicit/declarative memory systems interact in the formation and the consolidation of sensory memories in long term memory.