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### **On the fast acquisition of novel information and its neural correlates**

I will present a series of studies in which we investigated the acquisition of novel information within very short periods of learning. Our neurolinguistic studies demonstrate that language related information can be acquired in adulthood in a way that novel stimuli become integrated in existing language networks like stimuli of one's native language. For this purpose, we targeted the N400 component as an index for the effectiveness of the interplay between (novel) words and semantic representations. We demonstrated for different word classes that newly acquired words possess the capability to evoke brain responses very similar to native words. Using even shorter learning experiences, spanning only a few seconds, we showed that combining faces with olfactory stimulation (malodors or pheromones) led to enhanced processing of faces as seen in biologically motivated stimuli. Such changes in processing were seen as soon as 50 ms in regions associated with emotion processing. I will show in the last part of my talk how we currently use these approaches to understand processing and learning of neutral and emotional information in clinical research settings.