SEMINAIRE LEAD

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10h00 – Salle 101 – Pôle AAFE

Dezso NEMETH

Associate Professor, Hungarian Academy of Sciences,
Budapest and Eotvos Lorand University, Budapest

Competitive neurocognitive processes Underlying implicit statistical learning

Human learning depends on multiple cognitive systems related to dissociable brain structures. These systems interact not only in cooperative but sometimes competitive ways in optimizing performance. Previous studies showed that manipulations reducing the engagement of frontal lobe-mediated explicit, attentional processes can lead to improved performance in striatum-related procedural learning. Here I present four studies in which we investigated the competitive relationship between statistical learning and frontal lobe-mediated executive functions. Our result shed light not only on the competitive nature of brain systems in cognitive processes, but also could have important implications for developing new methods to improve human learning.

Keywords: memory systems, implicit learning, sequence learning, statistical learning, functional connectivity, prefrontal cortex, striatum.