THE LANGUAGE CIRCLE

MPI FOR HUMAN COGNITIVE AND BRAIN SCIENCES, STEPHANSTRASSE 1A, LEIPZIG

11.12.2024, 15:00 CET

Wilhelm Wundt Room and Zoom: https://zoom.us/j/94686183586

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The Neural Underpinnings of Attention and Distraction in (virtual) Realistic Environments

The ability to maintain focused attention towards a particular task or speaker and avoid distraction by irrelevant background events is crucial for many aspects of real-life behavior, including learning, memory, social communication, decision making, and self-control.

However, empirical lab-based research into the cognitive and neural mechanisms underlying the constructs of 'attention' and 'distraction' has primarily focused on highly artificial paradigms, stimuli and tasks that are a far cry from the challenges of attention in real-life environments.

Unfortunately, there is a growing realization that insights gained from highly-controlled studies do not generalize well to explain behavior in real-life settings.

To bridge this lab-to-real life gap, in this talk, I will present data collected using a novel VR-based experimental platform, designed for studying neural, ocular, and physiological manifestations of selective attention and distraction, under ecologically-realistic conditions that simulate those we need to deal with on a daily basis.

Using two common-day scenarios, a Virtual Café and Virtual Classroom, we show how neural processing of task-relevant speech is affected by background stimuli and noise, and how the sensitivity to irrelevant stimuli varies across individuals. We also discuss implications for theories of attention and possible clinical implications for ADHD research.

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