Minerva Center
for human intelligence
in immersive, augmented
and mixed realities

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Kindly invites you to attend
a talk by:

Prof. Elana Golumbic
Bar Ilan University

Monday, March 20ᵗʰ at 14:15

Sharet Building
Room 214

Ecological investigation of real-life attention: Insights from the Virtual Cafe and Virtual Classroom

The construct of attention has been studied extensively by cognitive psychologists and neuroscientists, using carefully controlled laboratory experiments. These types of studies have shown that attention facilitates many essential cognitive abilities such as learning, memory, social communication, goal-directed behaviors, and self-control. However, despite extensive research on the cognitive and neural mechanisms of attention, most empirical research is carried out in labs under highly controlled conditions and using artificial paradigms that are a far cry from the challenges of attention in real-life environments.

Advances in Virtual Reality and wearable neurophysiological technology now affords the opportunity to bridge the gap between the lab and real-life, and to study human attention under ecological conditions that simulate those faced with on a daily basis.

In this talk, I will present a novel VR-based experiment platform for studying behavioral, ocular, physiological and neural manifestations of real-life attention. We focus specifically on two typical scenarios: The Virtual Café, where individual attempt to pay attention to natural speech of a partner amidst a chaotic background, and the Virtual Classroom, where student are challenged to pay attention to the teacher's lesson and resist distraction from external, task-irrelevant stimuli in the environment. In both cases, we show evidence for neural processing of both task-relevant and task-irrelevant stimuli, demonstrating the non-exclusive nature of real-life attention. Moreover, our results highlight important individual differences in the deployment of attention and sensitivity to irrelevant stimuli in the environment, which are often overlooked in traditional attention research.