

Speaker: Dr. Shachar Maidenbaum

Title: Robots in extended realities

Abstract: Recent years have seen amazing progress in the realms of virtual and augmented reality. From expensive niche tools they are transforming into mainstream consumer products, and in the process unlocking huge potential for research and for rehabilitation. These tools excel in flexibility and immersion, but lack tangibility while robotics are often challenged by the opposite problem suggesting a complementary potential. In this talk I will discuss the challenges and potential of using mixed reality and how it affects our behavior, and then highlight a series of ways in which it can be joined with robotics from interfaces through human-robot interaction in the real world and within virtual environments, to hybridized extended reality robots for a series of uses ranging from everyday encounters to practical rehabilitation.

Bio: Dr. Shachar Maidenbaum is the head of the Spatial Reality lab at the Dept of Biomedical Engineering in Ben Gurion University. He previously completed an undergrad in computer science and computational biology and graduate studies in medical neurobiology at the Hebrew University, followed by a postdoc in biomedical engineering at Columbia University in NY. His lab focuses on understanding our interaction with our spatial surroundings using a combination of spatial computing tools (virtual and augmented reality) with biomedical and neuro signals (fMRI, EEG, ECoG, Eye tracking) and advanced computational analysis methods. We then focus on applying these tools and basic science findings for developing practical assistive technology and rehabilitation tools.