

Spring 2018 Seminar Series

Making Small Spaces Feel Large: Practical Illusions in Virtual Reality

Monday February 19th 2018

10:00am-11:00am – HEC 356

Immersive technologies have the potential to transform entertainment, communication and collaboration over distance, training for physical and cognitive tasks, and how people visualize, understand, and make decisions based on an ever growing landscape of complex data. However, despite rapid technical advances over the past few years and no small amount of media hype, there are numerous theoretical and practical problems yet to be solved before virtual and mixed reality can catch up with our imaginations and make good on these promises. Locomotion is one of the most significant interaction challenges because body movement is constrained by the real world, and users may collide with walls or physical obstacles if they walk outside the boundaries of a "room-scale" space. In this talk, I will present a series of illusory techniques that imperceptibly manipulate the laws of physics to overcome the spatial limitations that normally restrict movement in virtual reality. This approach, known as redirected walking, has stunning potential to fool the senses. I will discuss empirical experiments that have convinced users they were walking along a straight path while actually traveling in a circle or that they were exploring impossibly large virtual environments within the footprint of a single real-world room. Additionally, I will present the Redirected Walking Toolkit, an open-source research and development platform that can automatically redirect users in physical space as they walk through potentially infinite virtual worlds.

Dr. Evan Suma Rosenberg

Associate Director of the MxR Lab at the Institute for Creative Technologies and a Research Assistant Professor in the Department of Computer Science at the University of Southern California.



Evan Suma Rosenberg is the Associate Director of the MxR Lab at the Institute for Creative Technologies and a Research Assistant Professor in the Department of Computer Science at the University of Southern California. His research interests are situated at the intersection of virtual reality and HCI, encompassing immersive technologies, 3D user interfaces, and spatial interaction techniques. Dr. Suma Rosenberg has co-authored over 80 academic publications, nine of which have been recognized with conference awards, and his online research videos have been viewed over 2.4 million times. He has directed the development of multiple widely used free software projects and contributed to the MxR Lab's open-source initiative, which has had a major disruptive impact on the virtual reality industry. He received a Ph.D. in 2010 from the Department of Computer Science at the University of North Carolina at Charlotte. Dr. Suma Rosenberg recently served as General Chair for IEEE VR, the leading academic conference on virtual and augmented reality, and was the recipient of a Google VR Research Award in 2017.

Hosted by: Gita Sukthankar

