Color & Adaptation in Virtual Reality, Real Reality, and Points in Between

Michael J. Murdoch
CIS Seminar Mar 9, 2016

Abstract

Lighting, imaging, graphics, AR, and VR: these topics all come together to create and enhance human visual perception of real and virtual worlds. In this CIS Seminar, I will introduce my past research on imaging systems and computer graphics and share ongoing work in two new research projects I started this fall, both aimed at color appearance and visual adaptation in new, growing technologies. Dynamic lighting, in which lights and lighting systems change in hue and brightness over time, are becoming more common for a variety of reasons, opening new questions in color science about adaptation and appearance. Augmented reality, in which synthetic objects can be mixed in to our real-world experience, offers immense potential for education, medicine, entertainment, and more. New, unusual visual environments are suddenly possible, complicating and enhancing the visual appearance of colors, materials, and spaces.