

Measurement and modeling of the use of color and material in naturalistic tasks

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Abstract

Perceived color and material are perceptual correlates of physical object surface reflectance, and as such provide representations that enable object identification and selection. Most studies of the perception of these attributes, however, ask the subject to rate or match, rather than to identify or select. We have developed methods for using object selection per se to assess perceived color and material, with these methods extensible to naturalistic stimuli and tasks. I will describe the methods and some of what we have learned using them, as well as discuss a computational framework that allows understanding the role played by early vision in shaping perceptual representations.

References

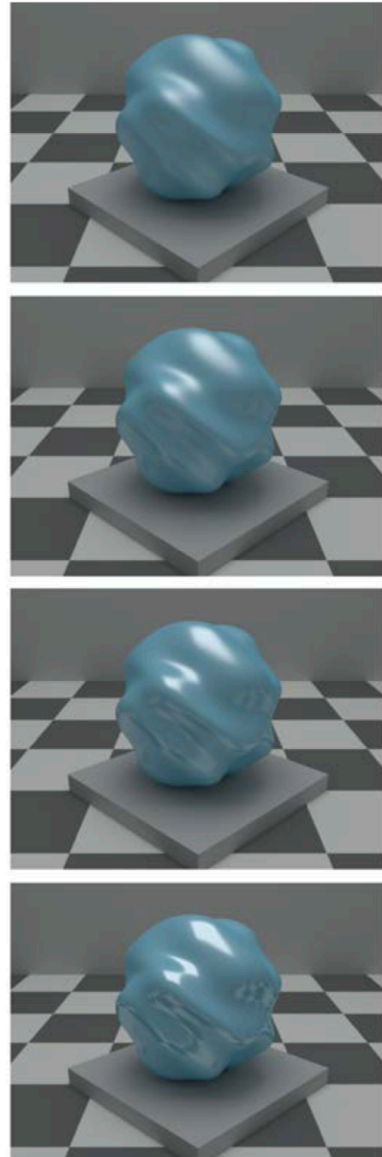
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Biography

David H. Brainard is the RRL Professor of [Psychology](#) at the [University of Pennsylvania](#). He received an AB in Physics (Magna Cum Laude) from Harvard University (1982) and an MS (Electrical Engineering) and PhD (Psychology) from Stanford University in 1989. His research focuses on color vision, intrinsically photosensitive retinal ganglion cells, retinal imaging, as well as computational models thereof. He is a fellow of the [Optical Society](#), [ARVO](#) and the [Association for Psychological Science](#). At present, he is the Associate Dean for for the Natural Sciences in Penn's [School of Arts and Sciences](#). He also directs Penn's [Vision](#)



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