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Color: Physics and Perception

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Unless we are colorblind, as soon as we look at something, we know what color it is. Simple, isn't it? No, not really. The color we see is rarely just determined by the physical color, that is, the wavelength of visible light associated with that color. Other factors, such as the illuminating light, or the brightness surrounding a certain color, affect our perception of that color. Most striking, and useful, is understanding how the retina and the brain work together to interpret the color we see, and how they can be fooled by additive color mixing, which makes it possible to have color screens and displays. I will show the physical origin of all these phenomena and give live demos as I explain how they work. Bring your own eyes! For more information: (1) watch TED talk: "Color: Physics and Perception" and (2) read book: PUPA Gilbert and W Haeberli "Physics in the Arts", ISBN 9780123918789.