NEURAL MECHANISMS OF COLOR VISION  Fall 2018, Mondays 2-3:50 PM  
Instructor: Robert Shapley  
Syllabus  
Readings posted in NYU Classes (Resources)  

No Class September 10 because of Rosh Hashanah

1. Perception of color and brightness: Phenomenology -- September 17  
in Colour, Art and Science, ed. Lamb and Bourria, Cambridge UP  
[https://www.colour-blindness.com/](https://www.colour-blindness.com/) take Ishihara and Color Arrangement tests

2. Measuring brightness and color -- September 24  
Ohno (2010) “Radiometry and photometry for vision optics” ” Handbook of Optics 3rd edition volume 3 Chapter 37  

3. Cone Photoreceptors -- Oct 1  

No class Oct 8 -- class meets Tuesday this week

4. Evolution of color vision in primates -- Oct 9  
Imamoto, Shichida (2014) Cone visual pigments Biochim Biophys Acta 1837:664-673  

5. Color opponent neurons: LGN I -- October 15  
DeValois (1960) Color vision mechanisms in the monkey J Gen Physiol 43 Supp. 115-128  
QUIZ 1

6. Color opponent neurons: LGN II -- October 22  
Reid, Shapley (1992) Spatial structure of cone inputs to receptive fields in primate
No Class Nov. 5--Society for Neuroscience meeting

7. Color-opponent neurons: Retina—Oct 29

   Solomon et al. (2005) Chromatic organization of ganglion cell receptive fields in the peripheral retina *J Neurosci* 25:4527-39

8. Color coding in primary visual cortex I – makeup (to be arranged)


9. Color coding in primary visual cortex II—Nov 12


   QUIZ 2

10. Color coding in primary visual cortex III --Nov 19


11. Color coding in extra-striate cortex I – Nov 26

12. Color coding in extra-striate cortex II --Dec 3
Conway, Moeller, Tsao (2007) Specialized color modules in macaque extrastriate cortex
*Neuron*, 56: 560–573


13. Color in human visual cortex --Dec 10


FINAL EXAM --- DECEMBER 17 2PM