

NEURAL MECHANISMS OF COLOR VISION
Syllabus Fall 2010

1. Perception of color and brightness: Phenomenology --

Lamb and Bourriau 1995 *Colour, Art and Science*, Cambridge UP
Chapter 1 Color in art (Bomford),
Chapter 6 Color in nature (Parks)

Gordon Shapley 2006 *Spat Vis.*;19:133-46.

2. Colored lights and color matching

Graham 1965 *Vision and Visual Perception*
Chapter 1 Light as a stimulus for vision (Riggs)

Wandell 1995 *Foundations of Vision*, Sinauer
Chapter 4 Wavelength encoding

3. Cone Photoreceptors--

Tomita, Kaneko, Murakami, Pautler 1967 *Vision Research* 7, 519-31

Gegenfurtner and Sharpe 2001 *Color Vision, from genes to perception*, Cambridge UP
Chapter 4 Cone electrophysiology (Schnapf, Schneeweis)
Chapter 11 Parallel channels and equiluminance (Shapley, Hawken)

Hofer et al 2005 *J. Neurosci.* 25:9669-9679

4. Color opponent neurons: retina and LGN I--

Gegenfurtner and Sharpe 2001 *Color Vision*
Chapter 7 retinal anatomy (Wässle)

DeValois and DeValois *Spatial vision* chapter 3

5-6. Color opponent neurons: retina and LGN II--

Derrington Krauskopf and Lennie 1984 *J Physiol* 357, 241-265

7. Color opponent neurons: retina and LGN III--

Reid Shapley 1992 *Nature*, 356, 716-718

Reid Shapley 2002 *J Neurosci* 22:6158-75

8. Color coding in primary visual cortex I --

Livingstone and Hubel 1984 *J. Neurosci.* 4: 309-356

Livingstone and Hubel 1988 *Science* 240, 740-750

- Conway Livingstone 2006 *J Neurosci* 26:10826-46
9. Color coding in primary visual cortex II--
Thorell DeValois Albrecht 1984 *Vision Res* 24:751-69
- Lennie Krauskopf Sclar 1990 *J Neurosci* 10, 649-66
10. Color coding in primary visual cortex III --
Johnson Hawken Shapley 2001 *Nature Neurosci* 4: 409-16.
- Friedman, Zhou, von der Heydt 2003 *J Physiol* 548:593– 613
- Johnson Hawken Shapley 2008 *J Neurosci* 28:8096-8106
11. Color coding in human visual cortex --
Gegenfurtner and Sharpe 2001 *Color Vision*
Chapter 14 Color tuning in two human cortical areas (Wandell et al)
- Schluppeck Engel 2002 *J Vision* 2:480-92.
- Engel (2005) *Neuron* 45:613-623
12. Color in the cortex beyond V1--
Zeki 1983 *Neuroscience* 9, 741-765
- Gegenfurtner and Sharpe 2001 *Color Vision*
Chapter 13 extrastriate visual areas (Kiper et al.)
- Sincich Horton 2005 *Annu Rev Neurosci* 28:303-26
13. Review -