# Lecture 5: Colour Vision

## Exercises

Read the following paper which can be downloaded from the VP Moodle page.

Wolf, K. (2002). Visual ecology: Coloured fruit is what the eye sees best. *Current Biology*, Vol.12, R253-R255.

Answer the following questions.

1. Do most mammals have dichromatic or trichromatic vision?
2. What is one of the disadvantages of trichromacy over dichromacy?
3. Give one advantage that dichromat humans have over trichromat humans?
4. What is ”frugivory”?
5. What is remarkable about the frequencies to which the cones are tuned in all trichromatic primates? Why is this remarkable?
6. At low spatial frequencies, are we better at seeing differences in brightness or colour?
7. If we do a Fourier analysis of a random natural scene and another one of a close-up of ripe fruit on a bush, which spectrum would you expect to better match the sensitivity of our red-green colour-vision system to spatial frequencies? What’s simplest explanation for this?
8. Is contrast-sensitivity solely determined by our genes?
9. Explain what is meant by a ”non-frugivorous non-primate with dichromatic vision”