

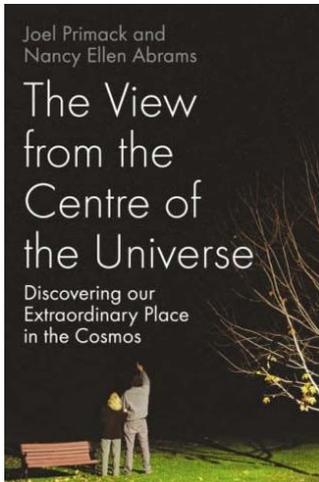
Public Observing at the Institute of Astronomy – 18th October 2006

Institute of Astronomy <http://www.ast.cam.ac.uk/IOA/>

& Cambridge Astronomical Association <http://www.caa-cya.org/home/index.php>

Any comments or suggestions please to **Carolyn Crawford** (csc@ast.cam.ac.uk)

Welcome to our public open evenings, which will be running every Wednesday throughout the winter season. The talk schedule for the coming term can be found at <http://www.ast.cam.ac.uk/IOA/public/0607timetable.html>

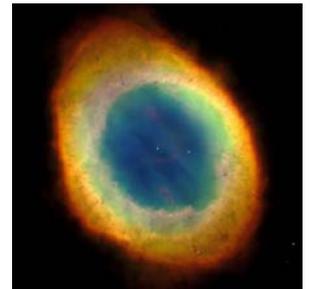


This week's talk : We have a special **1-hour guest lecture:** Joel Primack and Nancy Abrams will be giving an hour-long talk on *The View from the Centre of the Universe: Discovering our Extraordinary Place in the Cosmos*. Cosmology is going through a scientific revolution that is creating humanity's first picture of the universe that might actually be true. This lecture explains and visualizes the evolution of the Universe, the fact that the universe is made mostly of dark matter and dark energy with visible matter making up only about half a percent of the total, and the remarkable fact that humans - and indeed intelligent life anywhere in the universe - must have a size that is in the middle of all possible size scales. Joel and Nancy alternate frequently during the presentation, presenting scientific and philosophical viewpoints. The talk is both entertaining and educational, and it can be enjoyed by everyone from people who know nothing about modern astronomy to experts in the field.

You are welcome to stay and talk to the speakers after the lecture, and they will also be available to sign copies of their book; there will also be a stand of astronomical books to browse from Heffer's.

Next week's talk : Natasha Maddox will be telling us *How to find a quasar*

Astronomical object of the week : **The Ring Nebula in Lyra** can be seen through a small telescope, and is one of the most famous nebulae visible in the northern Sky during the summer. It is a classic 'planetary nebula', so-called because of its disk-like shape, and not because it has anything to do with planets! It is in fact formed during the end stages of the life of a star like our sun. As it exhausts the fuel supply in its core, the central regions collapse inward under gravity, shedding the outer layers of the star in the process. The remaining core of the star contracts and heats up, lighting up the ring of gas that was cast off. Eventually the core of the star will cool and fade away into darkness, and the ring will dissipate and vanish on a timescale of a few thousand years.



The Orionids meteor shower peaks on the 20th October; the later at night you can observe (and preferably after midnight), the more you are likely to see (obviously only if it's clear, of course!). They should appear to come from an approximately south-east direction, and occur every year when the Earth passes through a thin cloud of dust left behind by Halley's comet. As the dust particles burn up in the atmosphere, they create the trail we see as a 'shooting star'.

Website of the week : learn more about meteor showers and how to see them <http://stardate.org/nightsky/meteors/>

Some early evening **Iridium flares** will be visible from Cambridge in the next week. These are flashes of reflected sunlight off communication satellites in orbit above the Earth. Look at the time listed, and in the general direction given by the altitude and direction; watch out for a briskly moving 'star' (crossing the whole sky in about a minute) that quickly grows to a peak brightness and then fades away. Do try and look for these if it's clear, it's always amazing to see them appear bang on schedule!

Day	Time	Altitude	Direction
19 Oct	18:09:17	13°	W
20 Oct	18:27:43	46°	S
20 Oct	20:03:20	48°	SE
21 Oct	18:21:42	45°	S
21 Oct	18:22:08	45°	S
21 Oct	19:57:19	48°	SE
22 Oct	19:51:18	46°	SE
24 Oct	18:07:35	43°	S
24 Oct	18:12:52	40°	SSW

For more details (or to get exact times if you don't live in Cambridge) go to www.heavens-above.com

Targets we intend observing tonight (weather permitting; it doesn't look hopeful at the time of going to press...):
Wide angle camera (showing what can be seen in binoculars)

- The constellations of **the Plough, Lyra, Aquila and Cygnus**

Modern 14-inch (35 cm) telescope

- **M57**; the famous Ring nebula in Lyra, and our object of the week
- **Albireo**; a double star where the two stars have distinctly different colours of blue and yellow
- **Eta Cassiopeia**; a double star where the two components again have very different colours of yellow and red

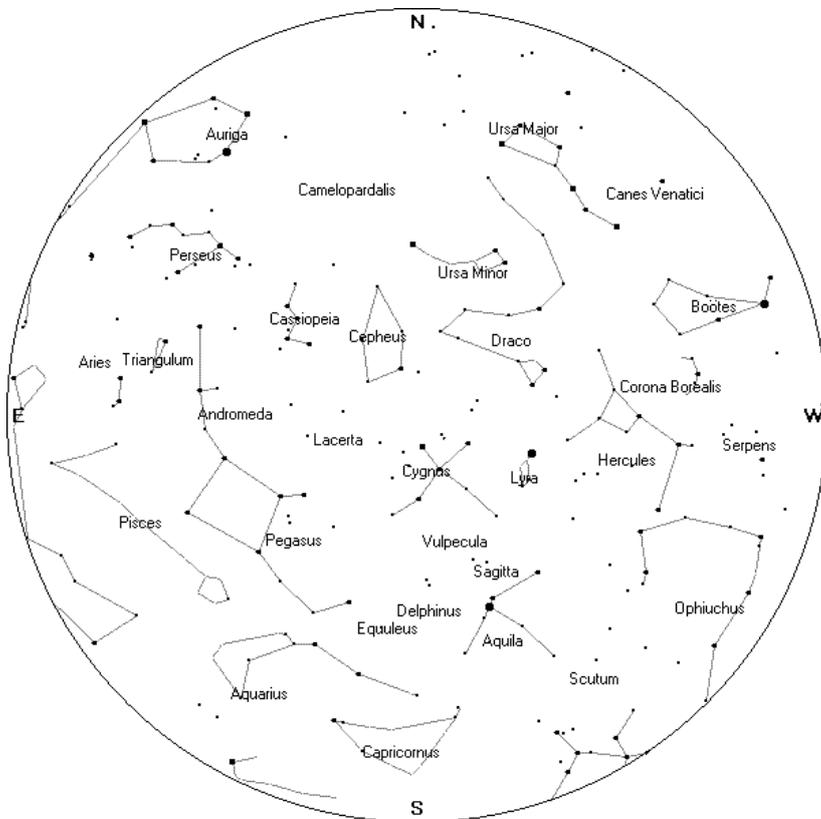
Modern 8-inch (20 cm) telescope

- **M13**; the great globular cluster in Hercules, and last week's object of the week
- **M27**; the Dumbbell, a planetary nebula
- **M92**; another bright globular cluster of stars in Hercules

The historic 12-inch Northumberland and 8-inch Thorowgood telescopes

- **Collinder 399**; an open cluster of stars, whose brightest members take the shape of a coathanger!
- **M57**; the famous Ring nebula in Lyra, and our object of the week
- **Albireo**; a double star where the two stars have distinctly different colours of blue and yellow
- **The Andromeda Galaxy**; the nearest Spiral galaxy to the Milky Way

Chart of the night sky from Cambridge for 8pm on Wed 18th October (taken from www.heavens-above.com)



No planets are on view to the naked eye at this time of year, unfortunately.

The *summer triangle* (imagine a right-angled triangle linking the brightest star in each of the constellations of Cygnus, Aquila and Lyra) is still visible in the sky, but now setting towards the West.

The autumn constellations of Andromeda and Pegasus are easily visible now.

And finally, a **site map** to help you find your way back to the car in the dark if we are observing tonight

Alternative parking here

Public observing happens here

Enter the IoA here for the talk

You have probably parked here

--- suggested route back to the car park

