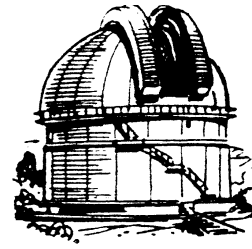

Journal

of the



Nottingham Astronomical Society

March 2012

Inside this issue

- Sky Notes for March
- NTU Open Dome event
- Diary Dates for 2012
- David Hofton
- NAS e-Services
- Stargazing Live report
- La Palma 2012
- Society Information
- Membership application form

Thursday, 1st March

**British Geological Survey
Nicker Hill, Keyworth
8 pm (doors open at 7.30pm)**

**Tonight we welcome
Dr Antonio Padilla**

**of the School of Physics and Astronomy
Nottingham University**

who will be speaking on

“Parallel Universes”

NEW LIGHT FROM ETA CARINAE

Eta Carinae is a massive highly-luminous double star in the southern hemisphere that undergoes powerful eruptions at irregular intervals. The heavier component of the system probably contains more than 100 solar masses of material.

For a few years around 1843, Eta Carinae was seen to radiate almost as much energy as a supernova, and at its peak appeared almost as bright as Sirius, in spite of being nearly a thousand times more distant – and yet the star survived. At that time astronomical photography was virtually non-existent, and so the opportunity to examine the explosive event in detail was lost for ever – or was it?

Apparently not, because astronomers using the Blanco 4-metre telescope at Cerro Tololo in Chile have detected a “light echo” from the outburst, i.e. radiation reflected from gas-clouds in the region which, because of its greater light-path, has taken 170 years longer to reach the Earth, and carries a record of that event. Astronomers will continue to study the behaviour of the light echo in the coming months and years in order to learn more about the 1843 eruption in this most unusual stellar system.

Sky Notes

March 2012

Compiled by Roy Gretton



The Vernal Equinox, when the Sun, moving northwards, crosses the celestial equator, occurs in the early morning of March 20th.

British Summer Time is due to begin on Sunday, March 25th. Clocks should be advanced by one hour at 1 am on that date.

PHASES OF THE MOON

First Quarter occurs on March 1st and again on the 30th

Full Moon occurs on the 8th

Last Quarter occurs on the 15th

New Moon occurs on the 22nd

This month the Moon is closest to the Earth on the 10th, and furthest from the Earth on the 26th.

THE PLANETS

I began **The Planets** section last April with the words, “*There is an acute shortage of planets to observe at the present time.*” Now the exact opposite is true, with all five naked eye planets being on display this month. Of particular interest is the close encounter between Venus and Jupiter that will adorn the evening sky for about ten days beginning on March 8th. Closest approach of the two planets will occur on the 14th, when they will come within three degrees of each other. I sense a photo-opportunity for everyone, not just those with expensive cameras!

Mercury this month puts in its best evening appearance of 2012 for observers in the northern hemisphere. Greatest eastern elongation occurs on March 5th, when the planet will be 18 degrees from the Sun. It will be highest above the western horizon on the 6th, and shining at magnitude -0.5 , but you will need a location with a low skyline in order to be able to spot this elusive object.

Venus, shining at magnitude -4.2 , is now high in the west at sunset, and easy to spot even when the sky is still bright. Viewed through a telescope, the planet begins March showing a waning gibbous phase, and ends the month as a thick crescent with a polar diameter of 24 arcseconds.

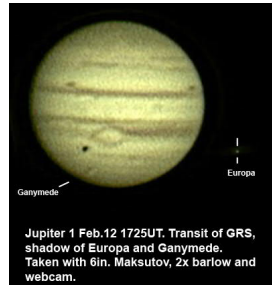
Mars reaches opposition to the Sun on March 4th, appearing as a magnitude -1.2 orange “star” in the constellation of Leo. Due to the relative configurations of the orbits of the Earth and Mars, this is not a particularly favourable opposition for observers, as the Martian disk will be barely 14 arcseconds across. Nevertheless, modest-sized telescopes will show significant detail on the surface.



Mars 4 Feb.12 0151UT taken with 8in.SCT, 2x barlow and webcam.

**Mars imaged on February 4th
by NAS member Bryan Lilley**

Jupiter, heading toward the Sun in the evening sky, remains a feasible target for observation, with prominent surface features and the constant movements of the four Galilean satellites easily seen through small telescopes. However, by the end of March its angular diameter will have diminished to 34 arcseconds (compared with almost 50 arcseconds last October), and the best observing opportunities will have gone until the coming autumn.



**Jupiter imaged on February 1st
by NAS member Bryan Lilley**

Saturn is a morning object in the constellation of Virgo. At the beginning of March it will be rising about 10 pm, and will be due south at 3.30 am. The plane of the ring system is tilted at an angle of 15 degrees when viewed from Earth, and presents a beautiful sight when observed through a telescope. The largest satellite, Titan, will be due north of the planet on the evening of March 10th, and again on the evening of the 26th.

Uranus and **Neptune** are effectively unobservable in the evening sky.

METEORS

No prominent meteor showers reach their maximum activity in March.

COMET GARRADD C/2009P1

Remember Comet Garradd? NAS members tracked and imaged this object in the evening sky last autumn, but then it moved too close to the Sun for observation, passing through perihelion on December 23rd. Now it has re-emerged, and this month is circumpolar, though best seen in the morning sky. At magnitude 7 it should be readily visible through binoculars, and in March will reach its most northerly declination (70 degrees). By the coming autumn it is expected to fade below magnitude 13, but by then it will be the first comet since the brilliant Hale-Bopp (1995-1998) to have been observed by amateurs through four solar conjunctions. The best advice for finding the comet on a night-to-night basis is to consult the Heavens Above website at <http://www.heavens-above.com>

Nottingham Trent University Open Dome Event - "The Star Disk Project "

Date: 31 March 2012

Time: To be confirmed

Event: Open Dome Event – The Star Disk Project

Location: CELS and Optical observatory, Clifton campus

Booking is required for this event. Please contact [Daniel Brown](#) to register.

For further information about the optical observatory, please visit the [observatory website](#).

DIARY DATES 2012

Monthly Meetings of the Nottingham Astronomical Society

Our programme for this year is shown below. Don't forget to check our website:

www.nottinghamastro.org.uk

for the latest information about the Society's meetings and for further information about the talks and speakers.

Our meetings are held on the **FIRST THURSDAY** of the month, at the British Geological Survey, Keyworth, Notts. NG12 5GG

Doors open at 7:30pm for 8pm start.

Thursday, 1st March 2012

Talk: **"Parallel Universes"**

Dr Antonio Padilla
School of Physics and Astronomy
Nottingham University

Thursday, 5th April 2012

Dramatic Lecture : **" A Starry Night to Remember – Astronomy and the Titanic"**
(100th Anniversary – April 1912)

Andrew Lound

Thursday, 3rd May 2012

Talk: (Title to be announced)

Thursday, 7th June 2012

Talk: (Title to be announced)

Thursday, 5th July 2012

Talk: **"Exodus – The Death of Stars "**

Paul Money

August 2012 - Summer Break - No Meeting

Thursday, 6th September 2012

Members' Evening (visitors welcome) - Topics to be arranged

<p>Thursday 4th October 2012</p> <p>Talk: (Title to be announced)</p>
<p>Thursday 1st November 2012</p> <p>2012 Annual General Meeting</p>
<p>Thursday 6th December 2012</p> <p>Talk: “ Climate Change and the Sun-Earth Connection”</p> <p>Dr Jim Wild Space Plasma Environment and Radio Science Group Lancaster University</p>

David John Hofton, 1944 – 2012

It is with great regret that we have to report the death of one of the Society's members, David Hofton, on February 2nd. Dave joined the society last year, having been introduced by his brother James, and was keen to continue his involvement with us. The Editor has many personal memories of Dave from our time together as work colleagues for five years in the early 1960s. We express our condolences to James and to all other members of the family touched by this sad event.

The Nottingham Astronomical Society: E - SERVICES

Whether or not you are a NAS member, you can now keep up to date with details of the Society's meetings and other events by visiting the NAS website:

www.nottinghamastro.org.uk

NAS Journal e-mailing list

To register for your monthly e-mailed copy of the NAS Journal, just e-mail

secretary@nottinghamastro.org.uk

You don't have to be a Society member to take advantage of this service.

Stargazing Live – January 2012

This year our society took part in no fewer than four Stargazing Live events, in the space of two weeks!

Our first event was at the BBC's Wollaton Hall Star Party, on Tuesday January 17th.

This was a great success for all, with over 4000 people attending, so many that at one point the gates had to be closed, and there was gridlock on the ring road!

We had our society display set up in the main hall, where various other activities were being staged, including a planetarium set up by Nottingham University. There were several talks given by speakers from Nottingham and other universities.

Outside the hall, in a darker part of the grounds, we set up our telescopes.

There was a total of 7 scopes, 5 of ours and 2 others – we could have done with 27!

We were lucky to have a clear evening and had good views of Jupiter in particular. It seemed as though all 4000 of the multitude came to view through the scopes – they just kept coming!

There were many families and children, and they were very impressed with the views, especially of Jupiter, this made the whole thing fun and very rewarding.

We look forward to next year's BBC star party!

On Thursday the 19th we went to the Stargazing Live event staged by Garendon School in Loughborough. There were displays by ourselves and several other astronomical societies, and several astronomical talks. We set up scopes outside but the sky was only occasionally clear; however we did get occasional glimpses of Jupiter.

Saturday the 21st saw our own event at Colwick Woods, a repeat of our first Stargazing event last year, with the facilities and catering provided by the Friends of Colwick Woods. We had a reasonable turnout, though not the crowds we had last year, as the sky was again rather patchy, but that meant more chances for those who did come, when patience was rewarded with good views of Venus, Jupiter, and the Orion nebula.

Later on (after everyone had gone!) we saw a triple disappearance of Jupiter's moons, when Io, Europa and Ganymede all disappeared behind or in front of the planet within a quarter of an hour! Thanks again to our friends at Colwick Woods for their facilities and assistance.

After a well earned rest, the following Saturday the 28th was our Stars at the Stables event, at the stables in Keyworth. This was a good evening, with a clear sky and lots of visitors.

South Notts Riding for the Disabled provided the refreshments and a good time was had by all. This time we had a crescent moon, always good to wow the public, with Venus nearby and Jupiter visible all evening. Our six telescopes were put to good use!

Thanks again to Tim and Marjorie at the Stables and the South Notts RDA.

John Hurst
Observatory Director
(and Stargazing Live organiser)

LA PALMA 2012

Commencing January 20th, I spent a fortnight on the island of La Palma in the Canary Islands. The top of the island, the 2426 metre (just under 8000 feet) high volcanic peak of the *Roque de los Muchachos*, is one of the two most important sites for professional astronomy in the northern hemisphere (the other being Mauna Kea in Hawaii), and is home to a large collection of telescopes of various types, including the *Gran Telescopio Canarias*, claimed to be the largest single-aperture optical telescope in the world.

The primary aim of my holiday was not astronomy, but walking and relaxation away from the British winter (in January the typical daytime temperature at sea level in La Palma is close to 20 degrees Celsius, with little drop in temperature overnight). However, travel to a latitude closer to the equator is always of interest to an amateur astronomer, with the opportunity to view familiar constellations in unfamiliar positions, and to see some that are never visible from Britain. La Palma's latitude is 28.5 degrees north compared with Nottingham's 53 degrees. My previous visits to the Canary Islands had always been to a resort with serious light pollution, so this time it was useful to be at a hotel on the east coast of La Palma, south of the capital Santa Cruz, where there are dark skies over the ocean in a wide arc from NNE to SSE.

As darkness fell, Jupiter was virtually overhead, to be followed by the Pleiades and later Pollux, the brightest star in Gemini. The familiar form of Orion was high in the south, with the constellations of Columba and Puppis clearly visible below Canis Major. Of particular interest was the brilliant star Canopus in the constellation of Carina, the second brightest fixed star after Sirius. Canopus is at a declination of minus 53 degrees, and so never visible from the UK.

The climax of my holiday was a 3-hour walk along the rim of the giant volcanic crater, the *Caldera de Taburiente*, the route of which passed many of the great observatories, including those of the Isaac Newton and William Herschel telescopes, and the *Gran Telescopio Canarias* with its 10.4-metre segmented primary mirror.



The Editor with the 3.58-metre aperture Italian telescope, *Telescopio Nazionale Galileo*, opened in 1998, to the left, and the 10.4-metre aperture *Gran Telescopio Canarias*, opened in 2009, to the right

1st February 2012

According to my guide, this had been a particularly mild winter in the Canaries. I'd previously been warned that there is often snow on the peaks in January-February, and a four-wheel-drive vehicle might be necessary for getting anywhere near the observatories. But thankfully on this occasion there was no trace of ice to be seen, and access was easy.

Roy Gretton

Nottingham Astronomical Society

Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies
Member of the Society for Popular Astronomy
Supporters of the Campaign for Dark Skies
Registered Charity No: 1066645

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Dorothy Sowerby

Kevin Greally

David Anderson

Meetings

Our meetings, often with an illustrated talk by a guest speaker, are held on the first Thursday of each month (except in August) at:

**The British Geological Survey
Nicker Hill
Keyworth
Nottingham NG12 5GG**

Doors open 7.30pm

Meetings start 8.00pm

Meetings end 10.00pm

Meetings are open to the public, and visitors are always welcome to attend.

Annual subscriptions 2012

Full	£25
Concessions	£12.50
Joint rate for partners living at the same address	£37.50

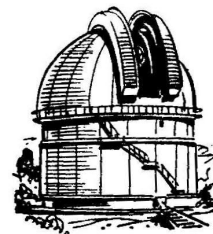
Subscriptions become due on 1st January. Half-price subscription is charged if joining after 1st July. Please make cheques payable to: Nottingham Astronomical Society.

If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary secretary@nottinghamastro.org.uk or speak to any NAS committee member at one of the regular monthly meetings. A membership application form is inside this issue of the Journal.

The Nottingham Astronomical Society

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NOTTINGHAM ASTRONOMICAL SOCIETY



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Affiliated to the British Astronomical Association
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Concession = under-18 / full-time student / unemployed and receiving benefits

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