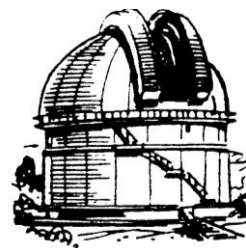

Journal

of the



Nottingham Astronomical Society

April 2014

Inside this issue

- Sky Notes for April
- Diary Dates
- NAS e-Services
- Imaging the Moon
- NTU Open Dome events
- Society Information
- Membership application form

Thursday, April 3rd
British Geological Survey
Nicker Hill, Keyworth
8 pm (doors open at 7.30pm)

Tonight we welcome

Paul Money

who will be speaking on

Basic Astrophotography

RECENT NEWS STORIES ON THE WEB

Follow these links for interesting current news:

Discovery of a new dwarf planet

<http://www.astronomy.com/news/2014/03/major-new-dwarf-planet-discovered>

...but no sign of Planet X

<http://www.astronomynow.com/news/n1403/16planetx/>

The supernova in M82 as a “standard candle”

<http://www.astronomy.com/news/2014/03/a-close-look-at-the-nearest-standard-candle-supernova>

Mars-bound comet sprouts multiple jets

<http://www.sciencedaily.com/releases/2014/03/140327111504.htm>

Gravitational Waves

<http://www.astronomynow.com/news/n1403/17inflation/>

The first ring system around an asteroid

<http://www.sciencedaily.com/releases/2014/03/140326141857.htm>

Sky Notes

April 2014

Compiled by Roy Gretton

All times are given in British Summer Time



PHASES OF THE MOON

First Quarter	8:31 am on April 7 th
Full Moon	7:42 am on April 15 th
Last Quarter	7:52 am on April 22 nd
New Moon	6:14 am on April 29 th

This month the Moon is closest to the Earth on the 23rd, and furthest on the 8th.

THE PLANETS

Mercury begins the month as a morning object, but virtually impossible to observe from the UK as it moves toward superior conjunction on April 26th.

Venus is a morning object throughout April, about 45 degrees from the Sun, and shining at magnitude -4.1 . By the end of the month it will be rising at about 4:30 am, and will be about 10 degrees above the southeastern horizon at sunrise. On April 12th, Venus will pass within one degree of Neptune.

Mars will be better placed for observation this month than it will be for over two years, so make the most of the opportunity if you are able. The planet will be at opposition to the Sun on April 8th, when it will have an apparent diameter of 15.3 arcseconds, and will be shining brightly at magnitude -1.5 . Look for a prominent orange “star” in the constellation of Virgo, moving slowly westward from night to night (it continues its retrograde motion until May 20th). Telescopes of 4-inch aperture and greater should show the main surface features. Mars remains south of the celestial equator this month, but will be at an elevation of more than 30 degrees as it crosses the meridian.

Jupiter, in the constellation of Gemini, continues to adorn the evening sky throughout April, fading slowly toward magnitude -2 , and shrinking in angular size (from 38 to 35 arcseconds).

The constant movements of the four brightest satellites are fascinating to observe. Interesting phenomena include: **eclipses** (when a satellite disappears as it enters Jupiter’s shadow), **occultations** (when a satellite passes behind the body of the planet), **transits** (when a satellite passes in front of the planet) and **shadow transits** (when a satellite casts its shadow on to the visible surface of Jupiter). Of these, shadow transits are probably easiest to observe with a modest-sized telescope (say 100mm aperture or greater). Look for a dark spot crossing Jupiter’s disk. A list of shadow transits visible in the evenings this month is given below.

April	Shadow transit of
1 st	Io 21:41 to 23:56
7 th	Europa begins at 21:28
8 th	Io begins at 23:36
17 th	Io 20:01 to 22:17

21 st	Ganymede 19:08 to 22:28
24 th	Io begins at 21:56
28 th	Ganymede begins at 23:08

Saturn is a morning object in the constellation of Libra, rising late in the evening as April begins. By the close of the month it will be rising before 9:30 pm and shining at magnitude +0.1. With the ring system tilted at nearly 23 degrees to our line of sight, the northern hemisphere of the planet will be exposed. Saturn's largest and brightest satellite, Titan, will be due north of the planet on April 16th.



Looking south at 2 am on April 21st

Uranus and **Neptune** are not well placed for observation this month.

DWARF PLANETS

Ceres and **Vesta** are both in the constellation of Virgo, separated by about 1.5 degrees (see diagram above, showing the position of Vesta).

METEORS

After a quiet couple of months, the **Lyrids** put in an appearance in April, with maximum activity expected on 22nd (but look out for them on the nights either side of this date). Ten events per hour may be seen under favourable conditions.

DIARY DATES 2014

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 3rd April 2014

Basic Astrophotography

Paul Money

Thursday 1st May 2014

White Dwarf Stars

Dr Sarah Casewell

Thursday 5th June

Practical Radio Astronomy for Amateurs

Paul Hyde

Thursday 3rd July

Phoenix from the Ashes – the Origin of the Chemical Elements

Prof Mike Edmunds

Thursday 7th August

Summer Break - No meeting

Thursday 4th September

Members' Evening – Non-members welcome – Topics to be arranged

Thursday 2nd October

The Latest on the Sun

Dr Lucie Green

Thursday 6th November

2014 Annual General Meeting

Thursday 4th December

Into the Cosmic Ocean
The Dream of Travel to the Stars

The Nottingham Astronomical Society: E - SERVICES

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

NAS on Facebook

You are welcome to connect with other members and friends of the NAS on Facebook by going to: <http://www.facebook.com/nas.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.

Imaging the Moon

A single 1/40th second exposure at ISO 1600 showing the Sinus Iridum (Bay of Rainbows) at 21:29 UT on 11th March 2014.



Canon 450D camera and 30-cm Newtonian reflector,
using projection from a 10 mm focal length eyepiece.

Roy Gretton

OPEN DOME EVENTS AT NOTTINGHAM TRENT UNIVERSITY

Location: CELS
Nottingham Trent University
Clifton campus
Clifton Lane
Nottingham
NG11 8NS

Open Dome Event - In Search of the Northern Lights

Date: Wednesday 2 April 2014

Time: 8 pm - 10 pm

The event will start at 8 pm with the talk *In Search of the Northern Lights* in CELS. Refreshments will be offered beforehand in the CELS foyer. Afterwards, visitors will get a tour of the NTU observatory and the chance to see interesting objects in the spring sky with the observatory's telescopes, small telescopes, and binoculars if the weather allows it. If the weather is not good, a small planetarium session will be offered in the observatory pointing out objects of interest.

Parking is available for visitors in the North Gate car park.

Booking is required for this event. Entrance is free and available to everyone who is interested.

Open Dome Event - Goethe, Colours and Green Stars - The Phenomena of Colour

Date: Monday 28 April 2014

Time: 8 - 10 pm

Astrophysics and Newton's view on how colours are explained would make us believe that there are no green stars. However, how do we experience colours with our eyes? This has been discussed ever since Newton split white light into its colours. Goethe gives us some insight into the phenomenon of colours and how we see them.

The event will start at 8 pm with Dr H Liang (NTU) presenting her talk titled *Goethe, Colours and Green Stars - The Phenomena of Colour* that will introduce the inspiring debate on colour between Newton and Goethe. It will outline how we actually see the colours of stars and the universe. This talk will be followed by a brief introduction on what is visible in this month's sky.

Refreshments will be offered before hand in the CELS foyer. Afterwards, visitors will get a tour of the NTU observatory and the chance to see interesting objects in the spring sky with the observatory's telescopes, small telescopes, and binoculars if the weather allows it.

If the weather is not good, a small planetarium session will be offered in the observatory pointing out objects of interest.

Parking is available for visitors in the North Gate car park.

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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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Barrie Chacksfield

email: b.chacksfield@gmail.com

ORDINARY COMMITTEE MEMBERS:

Kevin Greally

David Anderson

Phil Heesom

Jackie Sutton

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 2014

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

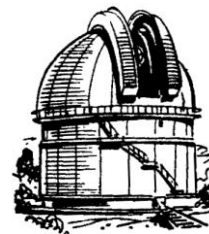
Subscriptions become due on 1st January. Half-price subscription is charged if joining after 1st July. Please make cheques payable to: Nottingham Astronomical Society.

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

The Nottingham Astronomical Society, and/or the Editor accept no responsibility for any errors that may occur within this publication. Any views expressed in the **NAS Journal** are those of the individual authors and not necessarily endorsed by the Nottingham Astronomical Society, its Committee or Members.

NOTTINGHAM ASTRONOMICAL SOCIETY



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Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies

Registered Charity No. 1066645
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Supporter of the Campaign for Dark Skies

Membership application and Gift Aid declaration

Title:

Full name:

Full home address:

Postcode:

Telephone:

e-mail address:

Subscription rate:	Full	£25.00	(year)	£12.50	(half year)
	Concession	£12.50		£6.25	
	Partnership	£37.50		£18.75	

Concession = under-18 / full-time student / unemployed and receiving benefits

Partnership = two members living together as a couple at the same address

I wish my subscriptions to be eligible for Gift Aid **Yes / No**

Gift Aid declaration

(HMRC reference XR32048)

I want Nottingham Astronomical Society to treat all subscriptions and donations that I make from the date of this declaration as Gift Aid donations, until I notify you otherwise.

I pay an amount of UK Income Tax and/or Capital Gains Tax at least equal to the tax that Nottingham Astronomical Society reclaims on my donations in the appropriate tax year.

Signature:

Date: