
Journal

of the



Nottingham Astronomical Society
March 2016

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Thursday, 3rd March

**British Geological Survey
Nicker Hill, Keyworth**

8 pm (doors open at 7.30pm)

Tonight we welcome

Dr Colin Snodgrass
of the Open University



who will be speaking on

“Rosetta: Anatomy of a Comet”

Jupiter at Opposition: Rare Phenomena of the Satellites

A remarkable sequence of phenomena that may be observed for a day or so around Jupiter's opposition is the fact that the Galilean moons can transit directly in front of their shadows on the planet's disk. This year the night of March 7th–8th will provide a rare opportunity to see both **Europa** and **Io** doing so at the same time!

Europa and its shadow begin to move in front of Jupiter at 23:09pm. Io and its shadow will begin to move across at 00:28am, while Europa simultaneously is in the centre of the disk. Europa and its shadow will leave at 01:57am, and Io and its shadow at 02:43am.

On a simpler topic, if you would like to observe the famous **Great Red Spot**, it will appear central on Jupiter's disk on the following dates and times in the evening this month:

11:20pm on the 1st
8:50pm on the 4th
10:25pm on the 6th
9:35pm on the 11th
11:10pm on the 13th

8:40pm on the 16th
11:55pm on the 20th
9:25pm on the 23rd
11:05pm on the 25th
11:10pm on the 30th

Sky Notes

March 2016

Compiled by Roy Gretton



All times given below are in Greenwich Mean Time (GMT) unless otherwise stated

British Summer Time (BST) begins on Sunday 27th March. Clocks should be advanced one hour at 2 am on that date.

The **Northward Equinox** (known in the northern hemisphere as the Spring Equinox) will occur at 4:30am on March 20th.

PHASES OF THE MOON

| <i>Phase</i> | <i>Date and time</i> | <i>Moonrise</i> | <i>Moonset</i> |
|---------------|------------------------------------|-----------------|----------------|
| Last Quarter | 11:11pm on March 1 st | 12:45am | 11:05am |
| New Moon | 1:54am on the 9 th | 6:40am | 6:40pm |
| First Quarter | 5:03pm on the 15 th | 10:15am | 1:05am |
| Full Moon | 12:01pm on the 23 rd | 6:25pm | 6:00am |
| Last Quarter | 4:17pm BST on the 31 st | 2:20am BST | 11:20am BST |

This month the Moon is closest to the Earth on the 10th and furthest on the 25th.

THE PLANETS

Mercury begins the month as a morning object, but practically unobservable. It reaches superior conjunction on March 23rd.

Venus, also a morning object, is virtually unobservable from the northern hemisphere this month.

Mars will move from Libra into Scorpius in mid-March. By the close of the month its apparent diameter will have increased to nearly 12 arcseconds, but unfortunately for observers in the UK it will be more than 20 degrees south of the celestial equator.

The prospects for planetary observation this month would be very poor indeed, were it not for **Jupiter's** gallant performance as the King of the night sky! He reaches opposition to the Sun on March 8th, and therefore will be visible all night long throughout the month. Although less favourably placed than he was two or three years ago, Jupiter remains north of the celestial equator until the autumn. The equatorial diameter will reach 44.5 arcseconds, and at magnitude -2.5 he is the brightest natural object in the night sky other than the Moon.

For those who enjoy watching the movements of the four brightest satellites, a list of shadow transits (the easiest phenomena to observe) visible in the *evenings* this month is given below. Look out for a dark spot crossing Jupiter's disk.

| March | Shadow transit of |
|------------------|--------------------------|
| 7 th | Europa begins at 11:09pm |
| 9 th | Io ends at 9:12pm |
| 16 th | Ganymede ends at 11:07pm |

| | |
|------------------|----------------------------|
| 16 th | Io 8:50pm to 11:05pm |
| 17 th | Callisto begins at 9:10pm |
| 23 rd | Ganymede begins at 11:47pm |
| 23 rd | Io begins at 10:44pm |

Saturn moves through the constellation of Ophiuchus in a direct manner until it reaches its first stationary point on March 25th, when it commences its retrograde motion. Being in this region of the sky (more than 20 degrees south of the celestial equator) Saturn will never be very far above the horizon when viewed from the latitude of Nottingham, which is a real disadvantage to local observers. If you do get the chance to view the planet through a telescope, you will see that the ring system is very well-presented, with Saturn's north pole tilted toward us at an angle of more than 26 degrees.

Uranus and **Neptune** are unobservable this month.

METEORS

The **Virginids** begin to show weak activity in the second half of March.

City or County Library Cards

Did you know your Nottingham City Council, or Nottinghamshire County Council library card allows you access to a whole wealth of online information and resources relevant to astronomy, and other hobbies and interests you may have?

There are nearly 300 online magazines you can read in full from the comfort of your own home, either on a computer or tablet device.

eMagazines available which are related to astronomy include:

- Astronomy
- New Scientist
- Sky at Night
- Digital SLR Photography
- Digital Photographer

In addition there are eBooks to download, access to daily newspapers, audio books, family history records, educational material and countless other services available for library card holders, not to mention all the other activities libraries undertake including book clubs and writing groups, meetings, events and exhibitions, as well as lending old fashioned books!

Some of the online services can only be accessed from a library computer, but many can be accessed from your own home.

To find out how to get more from your library card, or indeed how to register with the library service to get a library card, use the links below, or visit your local library:

Nottingham City Council Library Service:

<http://www.nottinghamcity.gov.uk/article/22851/Libraries>

Nottinghamshire County Council Library Service:

<http://www.nottinghamshire.gov.uk/whats-on/libraries/joining-and-using-libraries>

James Dawson

helpdesk@nottinghamastro.org.uk

DIARY DATES 2016

Monthly Meetings of the Nottingham Astronomical Society

Our programme for this year is shown below. 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

(except **August**, when we meet at our observatory site, between Cotgrave and Cropwell Bishop)

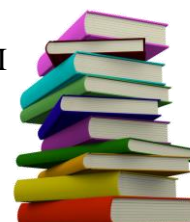
Doors open at 7:30pm for 8pm start.

| <u>Date</u> | <u>Topic</u> | <u>Speaker</u> |
|--------------------------------------|--|---|
| March 3 rd | Rosetta: Anatomy of a Comet | Dr Colin Snodgrass <i>The Open University</i> |
| April 7 th | Is There Anyone Out There? | Prof Ian Morison <i>University of Manchester</i> |
| May 5 th | Gamma Ray Bursts | Prof Nial Tanvir <i>University of Leicester</i> |
| June 2 nd | Gaia: A Billion Pixel Survey of a Billion Stars | Dr Elme Breedt <i>University of Warwick</i> |
| July 7 th | The Antikythera Mechanism: an Ancient Astronomical Computer | Prof Mike Edmunds <i>University of Cardiff</i> |
| August 6 th (Saturday) | Society BBQ at the Observatory | |
| September 1 st | Images of the Universe - 2 | Paul Money |
| October 6 th | Open Evening <i>including a Telescope Surgery</i> | |
| November 3 rd | Annual General Meeting 2016 | |
| December 1 st | Galactic Monsters: Seyfert Galaxies, Radio Galaxies and Quasars | Dr Marek Kukula <i>Greenwich Observatory</i> |

NAS Library

I'll be at the March meeting with a selection of books for members to borrow. I will also have some astronomy magazines which you are welcome to have, and if you have any unwanted astronomy magazines which you'd be happy for other members or visitors to have then please do bring them in.

The full list of books in our lending collection can be found here: [NAS Library Collection](#).



Lorraine NASlibrarian@hotmail.com

NAS Helpdesk



If there are specific topics you'd like to see as an article in the Journal, or as a help sheet, do let us know and we will see what we can do.

We will be on hand at the March meeting should you have any questions about astronomy equipment or its use, or just for a chat.

James Dawson and Bob Richardson

helpdesk@nottinghamastro.org.uk

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 on Twitter

The Society now has a Twitter account at <https://twitter.com/NottinghamAstro>

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.

Advertisement

FOR SALE

| | |
|---|-----|
| Brightstar manual filter wheel (holds up to five 1¼-inch filters) | £30 |
| Set of four 1¼-inch coloured filters (red, yellow, green, blue) | £20 |
| Mars filter 1¼-inch | £10 |
| Moon filter 1¼-inch (25% transmission) | £10 |
| Filter case (holds up to four 1¼-inch filters) | £2 |
| Celestron lens pen | £2 |
| Micro-fibre cleaning cloth | £2 |

Sam Boote s.boote@bcs.org or at Society meetings

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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(vacant post; Acting Director: John Hurst)

email: observatory@nottinghamastro.org.uk

Observatory line: 07726 940700 (line open during observing sessions)

ORDINARY COMMITTEE MEMBERS:

Sam Boote

Barrie Chacksfield

James Dawson

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 welcome to attend.

Annual subscriptions 2016

| | |
|---|-----|
| Full | £30 |
| Joint rate for partners living at the same address | £45 |
| Under-18s and full-time students | £5 |

Subscriptions become due on 1st January. Half-price subscription is charged if joining after 30th June (minimum subscription £5).

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.

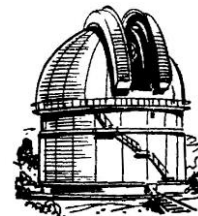
The Nottingham Astronomical Society

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NOTTINGHAM ASTRONOMICAL SOCIETY

Founded in 1946 for all interested in astronomy
Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies

Registered Charity No. 1066645
Member of the Society for Popular Astronomy
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 | £30.00 | (year) | £15.00 | (half year) |
| | Partnership | £45.00 | (year) | £22.50 | (half year) |
| | Under-18 and full-time students | £5 | | | |

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: