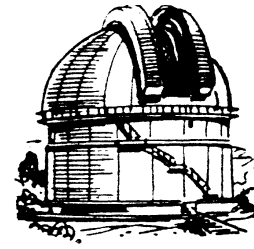


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# Journal

of the



## Nottingham Astronomical Society

November 2013

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- NTU Open Dome event
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**Thursday, November 7<sup>th</sup>**

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

Tonight we hold our

**Annual General Meeting, 2013**

***All members are encouraged  
to attend***

**Ten Years Ago: An Extract from the NAS Journal of November 2003**

*“The past year has been one in which significant progress has been made towards achieving our goal of having an operational observatory with a 24 inch aperture telescope. During the year:*

*The telescope has been ordered from Beacon Hill Telescopes and is under construction*

*The main mirror has been aluminised*

*We have bought a generator for on-site use*

*The observatory dome has been spring cleaned ready to receive the telescope*

*NAS committee member Joe Sowerby has constructed a winching mechanism to rotate the dome*

*We have an engineer, Nick Howarth, who is constructing a powered mechanism to open and close the dome shutter. The mechanism is being assembled is expected to be fitted to the dome within the next six weeks.*

*We have liaised with the British Astronomical Association to help bring a BAA Observers Workshop meeting to Nottingham in April 2004.*

*And of course we have had our usual programme of meetings at Djanogly CTC, as well as one at the observatory in October.”*

# Sky Notes

## November 2013

Compiled by Roy Gretton



*All times given are UT (Universal Time), equivalent to GMT*

### PHASES OF THE MOON

New Moon	12:50 pm on November 3 <sup>rd</sup>
First Quarter	5:57 am on November 10 <sup>th</sup>
Full Moon	3:16 pm on November 17 <sup>th</sup>
Last Quarter	7:28 pm on November 25 <sup>th</sup>

This month the Moon is closest to the Earth on the 6<sup>th</sup>, and furthest on the 22<sup>nd</sup>.

*(Data from the BAA Handbook)*

### THE PLANETS

If you happen to be up before dawn (which isn't too difficult in mid-November) you can witness the best morning apparition of the planet **Mercury** in 2013. After passing through inferior conjunction on November 1<sup>st</sup>, Mercury moves out from the Sun and reaches greatest western elongation on the 16<sup>th</sup>, when it will be 19 degrees from the Sun, and shining at magnitude  $-0.6$ .



Looking southeast at 6:15  
on the morning of  
November 18<sup>th</sup>.  
The bright star to the upper  
right of Mercury is Spica.

**Comet ISON** will be  
between Spica and Mercury  
around this time.

**Venus** is an evening object, reaching greatest eastern elongation from the Sun (47 degrees) on November 1<sup>st</sup>. While this may seem at first glance to be a good opportunity to observe the planet, in reality this is not the case, because at this time Venus will be 27 degrees south of the equator: ideal for southern hemisphere observers, but fairly dire for us in the UK!

**Mars** is a morning object, moving from Leo into Virgo as November progresses. By the close of the month it will be rising less than one hour after midnight, and its angular diameter will have increased to more than 5 seconds of arc: still quite small!

Turning now to the King of the planets, if you look to the east on a clear evening you can hardly fail to spot **Jupiter** as it rises in the constellation of Gemini. By this time of night it is the brightest object in the sky apart from the Moon, and will be shining at magnitude  $-2.5$  or brighter. By the end of the month its equatorial diameter will have increased to about 45

arcseconds, making it an excellent subject for telescopic observation. As a naked-eye observer, you may also find it interesting to watch the movement of Jupiter from week to week against the background stars. Up to November 6<sup>th</sup> the planet will be (as usual) moving in an easterly direction; but after the 6<sup>th</sup> its movement becomes retrograde (east to west) because the Earth, on its tighter orbit, will be “overtaking” the giant. Note how Jupiter moves relative to the stars Pollux and Castor.

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. (*Data obtained from the BAA Handbook*).

November	Shadow transit of
5 <sup>th</sup>	Io begins at 23:08
7 <sup>th</sup>	Ganymede begins at 22:26
14 <sup>th</sup>	Io 19:29 to 21:43
21 <sup>st</sup>	Io 21:22 to 23:36
23 <sup>rd</sup>	Europa 19:01 to 21:41
28 <sup>th</sup>	Io begins at 23:15
30 <sup>th</sup>	Europa begins at 21:38

**Saturn** will be in conjunction with the Sun on November 6<sup>th</sup>, and is therefore unobservable this month.

**Uranus**, in the constellation of Pisces, and close to the border of Cetus, is well-placed for observation in the evening this month, when its apparent diameter will be 3.6 seconds of arc, and its brightness magnitude 5.8.

**Neptune**, magnitude +7.9, is an evening object in the constellation of Aquarius, about 11 degrees south of the celestial equator.

## METEORS

The **Taurids** have two maxima, the first on November 5<sup>th</sup> and the second on the 12<sup>th</sup>. The earlier one is particularly favourable, being close to the New Moon. About 10 events per hour are to be expected under ideal conditions.

The **Leonids** have an unfavourable return this year, with maximum activity (perhaps 20 events per hour) coinciding with the Full Moon.

## Comet ISON

Comet 2012 S1 (ISON) is a morning object, approaching perihelion on November 28<sup>th</sup>. It spends most of this month moving eastward in the constellation of Virgo (see diagram above). After earlier hopes that this would provide a particularly bright spectacle, the latest estimates suggest that the comet will fail to live up to these expectations.

## DIARY DATES 2013

### **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](http://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 5th December 2013**

**Dramatic Lecture : " Into the Cosmic Ocean "**

**The dream of travel to the stars**

**Andrew Lound**

Andy is a popular public presenter and UK Coordinator for the Planetary Society

### **Nottingham Trent University Open Dome Event - " Red Star and Snowy Mountain "**

We have noticed the stars above since millennia and Stonehenge is the UK monument everyone links with ancient astronomy. Dr F Silva (University College London) will tell us about more examples in Europe.

Date: Wednesday 27 November 2013

Time: 8 pm - 10 pm

Location: CELS

Nottingham Trent University

Clifton campus

Clifton Lane

Nottingham

NG11 8NS

## **FUNCube Satellite news**

The launch date has been confirmed as 21 November 2013.  
The latest daily reports on progress can be found at this link:  
[FUNCube Launch Campaign – Latest](#)

FUNCube-1 is a 1U CubeSat that will provide a signal *directly* from a satellite in space to a receiver tuned to 145.935 MHz. The Funcube dongle is designed for this purpose, but other radios tuned to this frequency should also work if the audio signal can be routed to a computer running the 'Funcube Dashboard' software.. Other radios include the Newsky TV28T DVB-TV USB dongle configured to work as an SDR radio with free software such as 'SDRsharp' (SDR#).

The information will be displayed by the 'Funcube Dashboard' in an attractive format and provide stimulation and encouragement for students to become interested in all STEM (Science Technology Engineering & Maths) subjects in an unique way. In addition the spacecraft is also carrying a transponder for radio amateurs to use for communication.

*Rob Bush.*

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## **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](http://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](mailto:secretary@nottinghamastro.org.uk)

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

# ADVERTISEMENTS

## Telescope for sale

### SkyWatcher Explorer - 130/900 EQ2 Reflecting Telescope

Complete with X2 Barlow lens and two eyepieces, 10mm and 25mm focal lengths

£100

2 years old. Nottingham area.

Please email [clarestewart@waitrose.com](mailto:clarestewart@waitrose.com)

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## **FOR SALE**

Tele Vue Radian eyepiece - 6 mm focal length, 1¼ inch fitting (boxed)	£90
Celestron X-Cel LX eyepiece - 9 mm focal length, 1¼ inch fitting (boxed)	£40
15 x 70 Helios binoculars with hard case (with strap fittings but no strap)	£40
10 x 50 Helios binoculars with soft case (with strap)	£20
Binocular L bracket (to suit the 15 x 70)	£2
2 binocular clamps (to suit the 10 x 50 and similar)	£1 each
Moon filter, 25% transmission, 1¼ inch fitting (boxed)	£10
Red/white headlight for clipping to peaked cap	£1
Red/white headlight with strap	£1
Celestron lens pen	£1
Micro-fibre cleaning cloth	£1

For any of the above, please contact Sam Boote at [s.boote@bcs.org](mailto:s.boote@bcs.org) or at Society meetings.

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**Nottingham Astronomical Society**

Affiliated to the **British Astronomical Association**

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**ORDINARY COMMITTEE MEMBERS:**

**Kevin Greally**

**David Anderson**

**Victoria Jolly**

**Phil Heesom**

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**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 2013**

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

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

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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](mailto: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.

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**The Nottingham Astronomical Society**

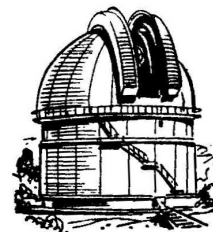
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# NOTTINGHAM ASTRONOMICAL SOCIETY

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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:**

<b>Subscription rate:</b>	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:**