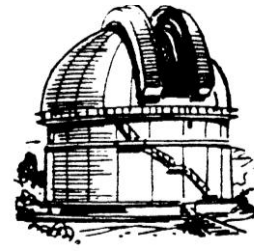


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# Journal

of the



## Nottingham Astronomical Society

February 2014

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### Inside this issue

- Sky Notes for February
- Diary Dates
- Winter holiday snaps
- Supernova in M82
- Pictures from Stargazing Live
- NAS e-Services
- Advertisement
- Society Information
- Membership application form

**Thursday, February 6<sup>th</sup>**  
British Geological Survey  
Nicker Hill, Keyworth  
8 pm (doors open at 7.30pm)

Tonight we will be holding a  
**Members' Evening**

*with a special focus on the  
practical aspects of  
using telescopes and taking  
astronomical photographs*

All members and friends welcome

### RECENT NEWS STORIES ON THE WEB

*Follow these links for interesting current news:*

River of hydrogen flowing through space

<http://www.sciencedaily.com/releases/2014/01/140127164414.htm>

All designs for the James Webb Space Telescope are now complete

<http://www.astronomy.com/news/2014/01/james-webb-space-telescope-passes-a-mission-milestone>

Mars could have supported life

<http://www.sciencedaily.com/releases/2014/01/140124093710.htm>

Ten-year anniversary of Opportunity's landing on Mars – and still going strong!

<http://www.skyandtelescope.com/news/Oppportunitys-10-year-Martian-Marathon-241828391.html>

Extremely Powerful Ultramassive Black Hole Discovered

<http://www.sci-news.com/astronomy/science-rxj1532-ultramassive-black-hole-01718.html>

Herschel telescope detects water on dwarf planet in asteroid belt

<http://www.sciencedaily.com/releases/2014/01/140122132535.htm>

# Sky Notes

## February 2014

Compiled by Roy Gretton



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

### PHASES OF THE MOON

First Quarter	7:22 pm on February 6 <sup>th</sup>
Full Moon	11:53 pm on February 14 <sup>th</sup>
Last Quarter	5:15 pm on February 22 <sup>nd</sup>

*Note: There is no New Moon this month (but we did have two of them in January!)*

This month the Moon is closest to the Earth on the 27<sup>th</sup>, and furthest on the 12<sup>th</sup>.  
(Data from the BAA Handbook)

### THE PLANETS

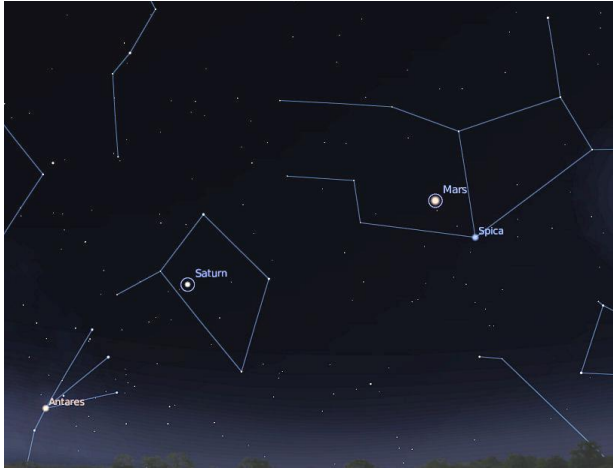
**Mercury** begins the month relatively well placed for observation in the evening sky, 18 degrees from the Sun. This is one of two favourable evening apparitions of the planet in 2014, the other one occurring in May. Look toward the WSW horizon after sunset, preferably with binoculars, and you should be able to spot Mercury shining at magnitude  $-0.7$  among the stars of Aquarius. Thereafter, the planet moves rapidly back toward the Sun, and will be unobservable by mid-month.

**Venus** has now emerged as a morning object, beginning the month 28 degrees from the Sun and shining at magnitude  $-4.5$ . Maximum brightness is expected on February 12<sup>th</sup>. By the end of the month it will be 44 degrees from the Sun, and rising before 5 am. However, the planet will never be high in the sky due to its southerly declination (about  $-16$  degrees) throughout this period.



Looking southeast  
at 6 am on  
February 15<sup>th</sup>

**Mars** continues to grow in brightness and angular size as it moves toward opposition in early April. It begins February less than 9 arcseconds across, but ends the month more than 11 arcseconds across, meaning that some surface detail should be discernable through modest-sized telescopes. By mid-month its brightness will be magnitude zero.



Looking south  
at 4:30 am on  
February 18<sup>th</sup>

**Jupiter**, still undergoing retrograde motion in the constellation of Gemini, is the stand-out object in the night sky, visible from sunset to sunrise. It begins the month 4.3 astronomical units from Earth, and with an angular diameter of nearly 46 arcseconds, it will be shining at magnitude  $-2.6$ .

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*).

February	Shadow transit of
1 <sup>st</sup>	Ganymede begins at 22:10
2 <sup>nd</sup>	Europa 21:04 to 23:46
5 <sup>th</sup>	Io begins at 23:48
7 <sup>th</sup>	Io 18:16 to 20:32
9 <sup>th</sup>	Europa begins at 23:41
14 <sup>th</sup>	Io 20:11 to 22:27
21 <sup>st</sup>	Io begins at 22:06
27 <sup>th</sup>	Europa 18:11 to 20:53

**Saturn**, in the constellation of Libra, will be rising at about 2 am as February begins, and before 1 am as the month ends. Throughout the period it will close to magnitude  $+0.5$ , and slowly brightening. The ring system is, of course, a magnificent sight, now tilted at about 23 degrees to our line of sight. Saturn's largest and brightest satellite, Titan, will be due north of the planet on February 11<sup>th</sup> and again on the 27<sup>th</sup>.

**Uranus**, in the constellation of Pisces, is a magnitude 5.9 evening object close to the border with Cetus, but will be fast disappearing into the sunset glow as February wears on.

**Neptune** will be in conjunction with the Sun on February 23<sup>rd</sup>, and hence will be unobservable this month.

## METEORS

There are no notable meteor showers in February.

# 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](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 6<sup>th</sup> February 2014**

**Members' Evening - Telescopes and Astrophotography – A Practical Evening**

**(to which non-members are very welcome)**

**Thursday 6<sup>th</sup> March 2014**

**Stardust, Meteorites and the Early Solar System**

**Prof. Jamie Gilmour**

**Thursday 3<sup>rd</sup> April 2014**

**Basic Astrophotography**

**Paul Money**

**Thursday 1<sup>st</sup> May 2014**

**White Dwarf Stars**

**Dr Sarah Casewell**

**Thursday 5<sup>th</sup> June**

**Practical Radio Astronomy for Amateurs**

**Paul Hyde**

**Thursday 3<sup>rd</sup> July**

**Phoenix from the Ashes – the Origin of the Chemical Elements**

**Prof Mike Edmunds**

**Thursday 7<sup>th</sup> August**

**Summer Break - No meeting**

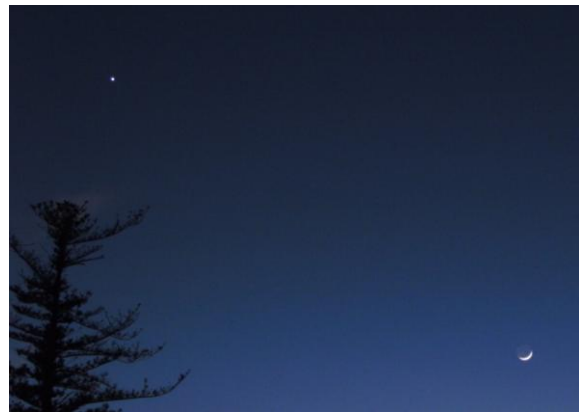
<p style="text-align: center;"><b>Thursday 4<sup>th</sup> September</b></p> <p style="text-align: center;"><b>Members' Evening – Non-members welcome – Topics to be arranged</b></p>
<p style="text-align: center;"><b>Thursday 2<sup>nd</sup> October</b></p> <p style="text-align: center;"><b>The Latest on the Sun</b></p> <p style="text-align: center;"><b>Dr Lucie Green</b></p>
<p style="text-align: center;"><b>Thursday 6<sup>th</sup> November</b></p> <p style="text-align: center;"><b>2014 Annual General Meeting</b></p>
<p style="text-align: center;"><b>Thursday 4<sup>th</sup> December</b></p> <p style="text-align: center;"><b>Into the Cosmic Ocean</b> <i>The Dream of Travel to the Stars</i></p>

**Winter Holiday Snaps:**

*Pictures taken with a hand-held compact camera in Tenerife*



Venus shines brightly over the lights of Puerto de la Cruz on 28 November 2013



Venus and the crescent Moon imaged from my hotel balcony on 4<sup>th</sup> December 2013

*Roy Gretton*

## The Supernova in M82

This supernova, discovered on January 21<sup>st</sup>, is currently between magnitudes 10 and 11 in brightness. I imaged it using a Canon 450D camera, at ISO 800, at the prime focus of my 30-cm reflector on the evening of January 25<sup>th</sup>.

**Image 1** is a single exposure of 30 seconds, showing how bright the supernova is compared with the surrounding galaxy.

**Image 2** is a stacked image totalling 25 minutes, bringing out the rest of the galaxy.

**Image 3** is a previous 30-minute stacked image from 1<sup>st</sup> February 2011 (for comparison).

**Image 1**



**Image 2**



**Image 3**  
(from 2011)



## Pictures from the NAS presence at the Stargazing Live Event at Charnwood College, Loughborough on 23<sup>rd</sup> January



### 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.

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## ADVERTISEMENT

### FOR SALE

Moon filter, 25% transmission, 1¼ inch fitting (boxed)	£10
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  
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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## **CAMPAIGN FOR DARK SKIES**

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email: [b.chacksfield@gmail.com](mailto:b.chacksfield@gmail.com)

## **ORDINARY COMMITTEE MEMBERS:**

**Kevin Greally**

**David Anderson**

**Phil Heesom**

**Jackie Sutton**

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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 2014**

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.

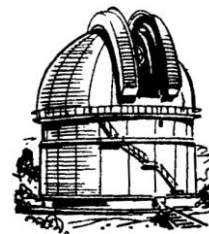
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### **The Nottingham Astronomical Society**

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# NOTTINGHAM ASTRONOMICAL SOCIETY



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Affiliated to the British Astronomical Association  
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## ***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:**