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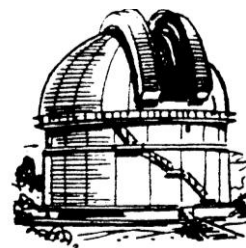
# Journal

of the

## Nottingham Astronomical Society

July & August 2014

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***Inside this issue***

- Sky Notes for July and August
- NAS e-Services
- Diary Dates for 2014
- Society Information
- Membership application form

**Thursday, 3<sup>rd</sup> July**  
British Geological Survey  
Nicker Hill, Keyworth  
8 pm (doors open at 7.30pm)

Tonight we welcome

**Professor Mike Edmunds**

who will be speaking on

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

### RECENT NEWS STORIES ON THE WEB

*Follow these links for interesting current news:*

Discovery of a trio of supermassive black holes in distant galaxy

<http://www.astronomy.com/news/2014/06/trio-of-supermassive-black-holes-shakes-space-time>

Truly amazing pictures taken by amateur astrophotographers

<http://www.dailymail.co.uk/sciencetech/article-2664460/Our-amazing-skies-Beautiful-pictures-astronomy-photography-finest-competition-attracts-record-number-entries.html>

(Competition winners to be announced on September 18<sup>th</sup>)

Might a mysterious source of X-rays be linked to dark matter?

<http://www.astronomy.com/news/2014/06/mysterious-x-ray-signal-intrigues-astronomers>

Nitrogen in Titan's atmosphere may have originated in ammonia in the pre-solar nebula

<http://www.sci-news.com/space/science-nitrogen-atmosphere-titan-02014.html>

Study of 600,000 galaxies confirms general theory of relativity

<http://www.astronomy.com/news/2014/06/clumped-galaxies-give-general-relativity-its-toughest-test-yet>

Star made of crystallised carbon: a diamond in the sky?

<http://www.sci-news.com/astronomy/science-white-dwarf-made-diamond-02016.html>

Mapping ice and dust in very cold regions of space

<http://www.astronomy.com/news/2014/06/astronomers-map-spaces-icy-wastes>

# Sky Notes

## July and August 2014

Compiled by Roy Gretton



All times given below are in **British Summer Time (BST)**

Earth's **aphelion** occurs on July 4<sup>th</sup>, when we shall be 152,093,407 km from the Sun (which is 4000 km less distant than we were at last year's aphelion).

### PHASES OF THE MOON

	July	August
First Quarter	1 pm on the 5 <sup>th</sup>	1:50 am on the 4 <sup>th</sup>
Full Moon	12:25 pm on the 12 <sup>th</sup>	7:09 pm on the 10 <sup>th</sup>
Last Quarter	3:08 am on the 19 <sup>th</sup>	1:26 pm on the 17 <sup>th</sup>
New Moon	11:42 pm on the 26 <sup>th</sup>	3:13 pm on the 25 <sup>th</sup>

In July the Moon is closest to the Earth on the 13<sup>th</sup>, and furthest from the Earth on the 28<sup>th</sup>. In August the respective dates are the 10<sup>th</sup> and the 24<sup>th</sup>.

### THE PLANETS

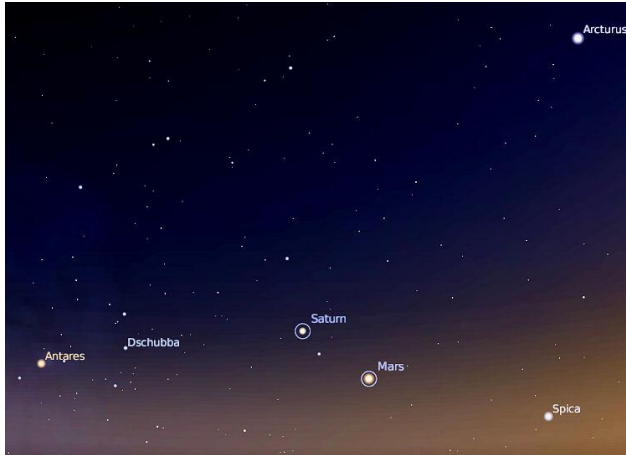
**Mercury** is a morning object through most of July, and an evening object through most of August, but in both months it will be extremely difficult to observe from the UK. The best chance of spotting the planet during this period will be around July 12<sup>th</sup>, when it will be at greatest western elongation, but even then it will be only 3 degrees above the horizon as civil twilight begins.

You may not have noticed, but **Venus** has been a morning object since mid-January, and will continue to be such until late October. Through most of this period it has been shining brilliantly in the east before sunrise. During the whole of July and August it will be shining at magnitude  $-3.8$ , and although its elongation from the Sun is decreasing, it will be easier to see than it was in June, because it will be higher above the horizon as civil twilight begins.

**Mars** remains an evening object throughout July and August, and continually receding from Earth, so that its angular diameter will shrink from 9.4 to 6.8 arcseconds during this period. In mid-August the planet moves from Virgo into Libra, by which time it will have faded to magnitude  $+0.5$ .

**Jupiter** at last leaves the constellation of Gemini and moves into Cancer in early July, and on the 24<sup>th</sup> reaches conjunction with the Sun. As a morning object, it will again become prominent to early risers by the end of August, when it will be nearly 6.3 astronomical units from Earth (compared with a little over 4.2 AU when it was at opposition last January).

**Saturn**, in the constellation of Libra, is currently the best-placed planet for observation. Its retrograde motion ends on July 20<sup>th</sup>, when it will resume its normal eastward movement against the background stars. The northern face of the ring system continues to be well seen, as the north pole of the planet is tilted toward Earth at an angle of over 21 degrees (increasing steadily throughout August).



Looking southwest  
at 9:30 pm on  
August 13<sup>th</sup>

**Uranus** is a magnitude +5.8 morning object, more than 5 degrees north of the celestial equator, in the constellation of Pisces.

**Neptune** reaches opposition to the Sun on August 29<sup>th</sup>, when it will be a magnitude 7.8 object in the constellation Aquarius.

## METEORS

There are three meteor showers visible in August: the **Alpha Capricornids**, which peak on the night of the 2<sup>nd</sup>-3<sup>rd</sup>, and may produce a handful of events in an hour if you are very lucky (but some of these may be long, slow fireballs); the **Iota Aquarids**, which peak on the 6<sup>th</sup>, and may produce a handful of faint meteors per hour; and of course the **Perseids**, observation of which this year will be seriously hampered by bright moonlight on the night of August 12<sup>th</sup>-13<sup>th</sup>.

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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

[journal@nottinghamastro.org.uk](mailto:journal@nottinghamastro.org.uk)

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

## 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 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**

**Thursday 4<sup>th</sup> September**

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

**Thursday 2<sup>nd</sup> October**

**The Latest on the Sun**

**Dr Lucie Green**

**Thursday 6<sup>th</sup> November**

**2014 Annual General Meeting**

**Thursday 4<sup>th</sup> December**

**Into the Cosmic Ocean  
*The Dream of Travel to the Stars***

# 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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email: [darks skies@nottinghamastro.org.uk](mailto:darks skies@nottinghamastro.org.uk)

## **ORDINARY COMMITTEE MEMBERS:**

**Kevin Greally**

**David Anderson**

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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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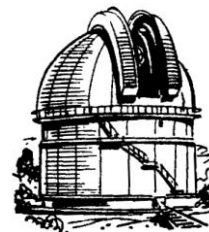
If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary [secretary@nottinghamastro.org.uk](mailto:secretary@nottinghamastro.org.uk) or speak to any NAS committee member at one of the regular monthly meetings. A membership 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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## ***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:**