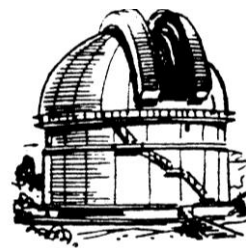


---

# Journal

of the



---

## Nottingham Astronomical Society

January 2012

---

### Inside this issue

- Sky Notes for January
- Observing Report: the 2011 Geminids
- Diary Dates for 2012
- NAS e-Services
- BBC Stargazing Live
- Public lecture at Nottingham University
- Society Information
- Membership application form

**Thursday, 5<sup>th</sup> January**  
British Geological Survey  
Nicker Hill, Keyworth  
8 pm (doors open at 7.30pm)

Tonight we welcome  
**Dr Daniel Brown**

of the School of Science and Technology  
Nottingham Trent University  
who will be speaking on

**“ Nocturnal Landscapes and  
Skyscapes”**  
**The Quest for Dark Skies**

**The Committee wishes all members and friends of the Society  
a very happy and prosperous New Year**

*Some astronomical highlights to look forward to  
(weather permitting) in 2012 are:*

- A brilliant apparition of the planet Venus in the evening sky, seen at its best in April.
- A transit of Venus (the last that any of us will see in our lifetime) on June 6<sup>th</sup>. The transit that occurred on 8<sup>th</sup> June 2004 was wholly visible from the British Isles, but this year only the final stages of the event, as the Sun rises, will be accessible from the UK. If you would like to observe the entire phenomenon, the central Pacific would be a promising location!
- A very favourable opportunity to observe the richest of the annual meteor showers, the Geminids, peaking on December 13<sup>th</sup>.

*This year sees a particular dearth of solar and lunar eclipses for British observers.*

# Sky Notes

## January 2012

Compiled by Roy Gretton



**Perihelion**, the point where the Earth is closest to the Sun, occurs shortly after midnight on January 5<sup>th</sup>, when the two bodies will be 147,097,200 km (91.4 million miles) apart.

### PHASES OF THE MOON

First Quarter occurs on January 1<sup>st</sup> and again on the 31<sup>st</sup>

Full Moon occurs on the 9<sup>th</sup>

Last Quarter occurs on the 16<sup>th</sup>

New Moon occurs on the 23<sup>rd</sup>

This month the Moon is closest to the Earth on the 17<sup>th</sup>, and furthest from the Earth on the 2<sup>nd</sup>.

### THE PLANETS

**Mercury** begins the year as a morning object, but very difficult to observe from the UK due to its southerly declination.

**Venus** adorns the evening sky as a bright white “star” in the southwest after sunset. At the close of January it will be 39 degrees from the Sun, and shining at magnitude  $-4$ .

**Mars** is a morning object in the constellation of Leo, but will be rising before 9 pm by the end of January. By then its angular diameter will exceed 11 arcseconds, so some surface detail will be evident even with modest-sized telescopes.

**Jupiter**, in the constellation of Aries, is now past its best for the current apparition. By the end of January, its angular diameter will have diminished to below 40 arcseconds (after reaching almost 50 arcseconds at opposition last October). Even so, it will continue to be a rewarding target for observation for some weeks yet, and at magnitude  $-2.5$  is still a prominent object in the evening sky. 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 80mm 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).

January 6 <sup>th</sup>	shadow transit of	Io	10.36pm to 12.45am
7 <sup>th</sup>		Europa	7.45pm to 10.08pm
8 <sup>th</sup>		Io	5.05pm to 7.14pm
14 <sup>th</sup>		Europa	10.21pm to 12.44am
15 <sup>th</sup>		Io	7.01pm to 9.10pm
22 <sup>nd</sup>		Io	8.57pm to 11.06pm
25 <sup>th</sup>		Ganymede	6.17pm to 8.04pm
29 <sup>th</sup>		Io	10.53pm to 1.02am
30 <sup>th</sup>		Europa	10.20pm to 12.46am



Jupiter imaged by the Editor  
at 22:02 hr on 2011 November 27

1/8<sup>th</sup> second exposure using eyepiece  
projection from 30 cm  
Newtonian reflector

**Saturn** is a morning object in the constellation of Virgo. By the end of January it will be rising at midnight. The plane of the ring system is now tilted at an angle of 15 degrees when viewed from Earth, making the planet a beautiful object when observed through a telescope.



Looking south at 4 am on January 31<sup>st</sup>

**Uranus** and **Neptune** are now barely observable in the evening sky.

## METEORS

The **Quadrantids** have a favourable maximum shortly before dawn on January 4<sup>th</sup>, when more than 80 events per hour may be observable.

---

## Observing Report: The 2011 Geminids

The Geminids are the richest of our annual meteor showers, but perhaps not very well observed because of the cold weather and high incidence of cloudy nights in December. For the past three or four years the night of maximum activity has been clouded out in our part of the world, but this winter the sky was relatively clear on December 14<sup>th</sup> (though not perfectly so, with some wispy high cloud and aircraft contrails). Conditions were far from ideal, with a gibbous Moon in the neighbouring constellation of Cancer, yet in spite of this the Editor saw a bright Geminid a few degrees from the Moon as he drove through West Bridgford at 10.20 pm (despite strong competition from the local street lighting!). Maximum activity had been predicted for 2 pm on that afternoon – ideal for observers in Asia, but not in the UK. As it happened, I was at a social event that evening and thus unable to do any observing until late, so it was a pleasant surprise to witness that bright event as I drove home. Once home I saw another (much fainter) Geminid within a minute of beginning to observe.

## DIARY DATES 2012

### 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 **1<sup>st</sup> THURSDAY** of the month, at the British Geological Survey, Keyworth, Notts. NG12 5GG

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

**Thursday, 5<sup>th</sup> January 2012**

Talk: “**Nocturnal Landscapes and Skyscapes**”  
The Quest for Dark Skies

**Dr Daniel Brown**  
School of Science and Technology  
Nottingham Trent University

**Thursday, 2<sup>nd</sup> February 2012**

**Members' Evening** (Visitors welcome )

**Members' Open Forum** and an **Astro Quiz**.

**Thursday, 1<sup>st</sup> March 2012**

Talk: “**Parallel Universes**”

**Dr Antonio Padilla**  
School of Physics and Astronomy  
Nottingham University

**Thursday, 5<sup>th</sup> April 2012**

Dramatic Lecture : “**A Starry Night to Remember – Astronomy and the Titanic**”  
(100th Anniversary – April 1912)

**Andrew Lound**

**Thursday, 3<sup>rd</sup> May 2012**

Talk: (Title to be announced)

<p style="text-align: center;"><b>Thursday, 7<sup>th</sup> June 2012</b></p> <p style="text-align: center;">Talk: (Title to be announced)</p>
<p style="text-align: center;"><b>Thursday, 5th July 2012</b></p> <p style="text-align: center;">Talk: “Exodus – The Death of Stars “</p> <p style="text-align: center;"><b>Paul Money</b></p>
<p style="text-align: center;"><b>August 2012 - Summer Break - No Meeting</b></p>
<p style="text-align: center;"><b>Thursday, 6th September 2012</b></p> <p style="text-align: center;"><b>Members’ Evening</b> ( visitors welcome ) - Topics to be arranged</p>
<p style="text-align: center;"><b>Thursday 4th October 2012</b></p> <p style="text-align: center;">Talk: (Title to be announced)</p>
<p style="text-align: center;"><b>Thursday 1st November 2012</b></p> <p style="text-align: center;"><b>2012 Annual General Meeting</b></p>
<p style="text-align: center;"><b>Thursday 6th December 2012</b></p> <p style="text-align: center;">Talk: “ <b>Climate Change and the Sun-Earth Connection</b>”</p> <p style="text-align: center;"><b>Dr Jim Wild</b> Space Plasma Environment and Radio Science Group Lancaster University</p>

## **The Nottingham Astronomical Society: E - SERVICES**

Whether or not you are a NAS member, you can now 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 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.

**STARGAZING LIVE AT COLWICK WOODS, NOTTINGHAM.  
Saturday January 21st, 2012 5pm - 9pm.**

An evening of stargazing with the telescopes of the Nottingham Astronomical Society. The giant planet Jupiter with its retinue of moons will be visible all evening, Orion the Hunter will be high in the south and we will view the famous Orion Nebula – a great stellar nursery. An evening of interest and discovery, for all ages. Amateur astronomers will be on hand to guide you around the sky and point out the constellations, principle stars and interesting objects. Refreshments – tea, coffee, hot soups etc will be available in the Pavilion, with displays and telescopes and friendly astronomers to answer your questions.

**Admission is free to the public** (under 16's must be accompanied by an adult.)

The event takes place at:

**The Old Bowling Green, Colwick Woods Nature Reserve, Greenwood Road,  
Bakersfield,  
Nottingham NG3 7FS**

This event is run in conjunction with the **BBC2 Stargazing LIVE** series, designed to inspire audiences to take a journey of stargazing discovery by letting them know about all of the great astronomy organizations in their area.

For further information see : <http://www.bbc.co.uk/tv/features/stargazing/index.shtml>

**ALSO Stargazing Live at Wollaton Hall - Tuesday 17<sup>th</sup> January.**

Organised by the BBC, with Nottingham Astronomical Society.

---

**Public astronomy lecture at the University of Nottingham  
“The Space Shuttle Story”**

Date: Thursday 12th January 2012

Time: 6-7 pm

Speaker: Dr. Daniele Fantin

The Space Shuttle was the world's first reusable spacecraft. Conceived during the years of the Apollo lunar program, was intended to service space stations, lower the costs of space travel and simplify the access to the moon and beyond. In its 30-year history, the Shuttle Space Program took astronauts on dozens of successful missions, contributing to some of the best scientific achievements of the last decades. But the successes were overshadowed by tragedies. In 1986, the Challenger exploded during launch. In 2003, the Columbia broke up during re-entry. Now that is over, how will the Space Shuttle be remembered? As a great adventure in human exploration? Or as a fatally-flawed white elephant?

**NO TICKETS REQUIRED**

Maths & Physics Building (B1)

University Park Campus

Nottingham

For more information, contact [Dr. Boris Haeussler](#) or [Dr. Samantha Tang](#)

# 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

---

## **PRESIDENT:**

**Fred Hopper**

e-mail: [fred.w.m.hopper@googlemail.com](mailto:fred.w.m.hopper@googlemail.com)

## **VICE PRESIDENT:**

**Roy Gretton**

e-mail: [roygretton@hotmail.co.uk](mailto:roygretton@hotmail.co.uk)

## **SECRETARY:**

**Victoria Jolly**

e-mail: [secretary@nottinghamastro.org.uk](mailto:secretary@nottinghamastro.org.uk)

## **TREASURER:**

**Sam Boote**

e-mail: [s.boote@bcs.org](mailto:s.boote@bcs.org)

## **JOURNAL EDITOR:**

**Roy Gretton**

e-mail: [roygretton@hotmail.co.uk](mailto:roygretton@hotmail.co.uk)

## **OBSERVATORY DIRECTOR:**

**John Hurst**

email: [jmhurst@hotmail.co.uk](mailto:jmhurst@hotmail.co.uk)

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

## **CAMPAIGN FOR DARK SKIES**

### **REPRESENTATIVE:**

**Barrie Chacksfield**

email: [b.chacksfield@bgs.ac.uk](mailto:b.chacksfield@bgs.ac.uk)

## **ORDINARY COMMITTEE MEMBERS:**

**Joe Sowerby**

**Dorothy Sowerby**

**Kevin Greally**

**David Anderson**

---

## **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 2012**

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.

---

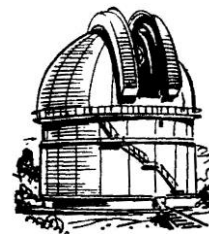
If you would like more information about the **Nottingham Astronomical Society**, or would like to become a member, please contact the Secretary [secretary@nottinghamastro.org.uk](mailto:secretary@nottinghamastro.org.uk) or speak to any NAS committee member at one of the regular monthly meetings. A membership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

---

### **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



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:**