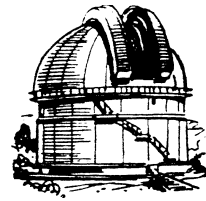

Journal

of the

Nottingham Astronomical Society February 2018



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Thursday, February 1st

Gotham Memorial Hall

Gotham, NG11 0HE

8 pm (doors open at 7 pm)

Tonight we welcome the return of

Paul Money, FRAS, FBIS



who will be speaking on

Triumphs of Voyager – Part 2

Where no probe has gone before

M31, the Great Andromeda Galaxy

The central portion, imaged at the prime focus the Editor's 30-cm Newtonian reflector

Total exposure 22 minutes at ISO 800, using a Canon 450D camera



Sky Notes

February 2018



Compiled by Roy Gretton

All times given below are in Universal Time (UT)

PHASES OF THE MOON

<i>Phase</i>	<i>Date and time</i>
Last Quarter	3:55pm on February 7 th
New Moon	9:06pm on the 15 th
First Quarter	8:10am on the 23 rd

Note that there is **NO** Full Moon in the whole of February. This deficiency can happen only in a February, since February is the only month of the year that is shorter than an average lunation of 29.53 days. The last time this happened was in 1999, and it will not happen again until 2037, in accordance with the Metonic Cycle, in which 19 solar years correspond to 235 lunar months, a relationship which is accurate to one part in 50,000.

By contrast, **BOTH** January and March each have **TWO** Full Moons this year.

This month the Moon is closest to the Earth on the 27th, and furthest on the 11th.

THE PLANETS

Mercury must be regarded as unobservable this month, as it passes through superior conjunction (on the far side of the Sun) on February 17th.

Venus is now beginning to emerge into the evening sky after passing through superior conjunction last month, so if you are lucky you may be able to spot it late in February, very low in the southwest after sunset, shining at magnitude -3.9 .

But expect Venus to put on a spectacular display over the coming summer!

Mars, along with Saturn and Jupiter, may be seen among the southern zodiacal constellations in the pre-dawn sky. The approximate magnitudes of the three are Mars 1 (in Scorpius), Jupiter -2 (in Libra) and Saturn 0.6 (in Sagittarius).



*Positions
of three
superior
planets in the
morning sky*

(looking SSE at
5:45am on
February 27th)

Mars was extremely close to Jupiter in early January, but is now racing eastward toward Saturn, which it will pass early in April.

Jupiter is the best placed of the superior planets for observation, in spite of being more than 17 degrees south of the celestial equator throughout February. It will be rising before 1 am by the close of the month, and by then will have an equatorial diameter of 39 arcseconds.

Saturn in mid-February rises at 5 am, but will be a very challenging object to observe, being very close to the horizon even as dawn begins to break.

Uranus, about 10 degrees north of the celestial equator in the constellation of Pisces, can still be observed in the evening sky. By the end of February it will be setting soon after 9:30pm.

Neptune, in Aquarius, must now be regarded as unobservable as it is overtaken by the sunset glow.

METEORS

There are no notable meteor showers in February.

DIARY DATES 2018

Monthly Meetings of the Nottingham Astronomical Society

1) Meetings at Gotham Memorial Hall

Nottingham Road, Gotham, NG11 0HE

Held on the **FIRST Thursday** of each month except **August**

Doors open at 7pm for 8pm start.

These events are normally centred around a talk by a visiting speaker, except Opening Evenings, when NAS members provide the activities.

*Normally we have a **Library** and a **Helpdesk** open at each meeting.*

<u>Date</u>	<u>Topic</u>	<u>Speaker</u>
February 1 st	Triumphs of Voyager – Part 2 <i>Where no probe has gone before</i>	Paul Money FRAS, FBIS
March 1 st	Dark Future? <i>Can the UK's dark spaces survive?</i>	Bob Mizon, MBE, FRAS BAA Commission for Dark Skies
April 5 th	Jodrell Bank 60 years on	Prof Ian Morison University of Manchester
May 3 rd	Lucky Planet – why Earth is exceptional <i>and what it means for life</i>	Prof David Waltham Royal Holloway, University of London
June 7 th	Diamonds in the Sky <i>White Dwarfs in Modern Astrophysics</i>	Professor Martin Barstow University of Leicester
July 5 th	Cassini's Final Science	Dr Phil Sutton University of Lincoln
August 4 th (Saturday)	Annual Society BBQ at the Observatory	
September 6 th	The Adventures of Curiosity on Mars	Prof Sanjeev Gupta Imperial College, London
October 4 th	Juno – the Answers	Prof Emma Bunce University of Leicester
November 1 st	Annual General Meeting	
December 6 th	Transient Events in Astronomy or <i>things that go bump in the night</i>	Prof Dame Jocelyn Bell Burnell DBE, FRS, FRSE, FRAS

2) Social and Practical Astronomy Meetings at the Burnside Memorial Hall, Plumtree

Church Hill, Plumtree, Nottingham, NG12 5ND

Held on the **THIRD Thursday** of each month from **7:30pm**

These meetings are of a more informal nature, providing opportunity for members and guests to share their hobby over a cup of tea or coffee, as well as listening to a short talk.

The next meeting will be on February 15th

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

Other events in the coming months open to everyone

Follow hyperlinks for more information and how to book

30th January	Project Adrift , Open Dome Event, Clifton
9th & 10th Feb	AstroFest Exhibition, London
28th February	A brief history of women in astronomy , Open Dome Event, Clifton
4th March	BAA Deep Sky Section Meeting , Bedford
10th March	BAA Back to Basics Workshop , Bristol
17-20 March	The Photography Show , The NEC, Birmingham
21st April	Society for the History of Astronomy Spring Meeting , Cambridge
2nd June 2018	Webb Deep Sky Society Annual Meeting , Cambridge

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 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.

If you happen to change your email address, please remember to inform the Society by emailing us at treasurer@nottinghamastro.org.uk

Social and Practical Astronomy, Plumtree

The **January** meeting at Plumtree saw Leigh and Gareth run a workshop on the principles of stacking images and an overview of how to use the free software [Deep Sky Stacker](#).

Leigh gave a presentation on the theory of image stacking and the steps necessary to create a calibrated image.

After Leigh's presentation, Gareth gave a live demonstration of Deep Sky Stacker (DSS) on his laptop. Gareth integrated three two-minute "subs" of the Orion Nebula, three dark frames and three flat frames. Gareth and Leigh then discussed the use of kappa-sigma clipping to remove satellite and aeroplane trails whilst the software was running. After about five minutes the stacked image was finished and the Orion Nebula appeared on the screen. The output file from DSS was then loaded into Photoshop shop for some quick adjustments (right). Hopefully the talk will have inspired others to have a go for themselves!



Julian and I ran a concurrent session for the beginners on the basics of the celestial sphere and some of the terminology used in observational astronomy, with the help of an umbrella (left). If you want a copy of the slides, send me an email.

A number of articles for beginners and intermediates can be found on the BAA's website <https://britastro.org/tutorials>.

The **February** meeting at Plumtree is going to be called *The Practical Astronomer's Glossary*, an interactive session on many of the terms and concepts in amateur astronomy. The **March** meeting will be a session on the different types of telescopes available to the amateur astronomer. At the **April** meeting, David Lukehurst is going to give us a talk on eyepieces.

James Dawson

NAS Helpdesk

helpdesk@nottinghamastro.org.uk

15 years ago: How we were then!

I've been editing the NAS Journal since I took over the job in November 2002. It's interesting to look back over those 15 years and see how things have changed.

1. New-fangled technology

*(a message from the Secretary, in the **January 2003** issue)*

I hope by now you are all aware that the Journal can be sent to you **FREE** as an E-mail attachment in Word format. All you have to do is make sure you can receive a 1MB message, and know how to open attachments. The Journal has never been as large as 1MB, but this is a system requirement if you use some service providers such as Hotmail, Yahoo etc. You are strongly advised to scan any attachment before you open it. Outgoing mail is always scanned, but recent virus alerts show that ISP can play a part in the spread of a new virus. To register for your FREE Journal, just E-mail the secretary - you don't even have to be a Society member to take advantage of this service.

E-mail has made such a difference to the ease with which members can be kept informed, and is especially important in keeping Society running costs down. The majority of speakers are now contacted and booked via E-mail, with only one final hard copy confirmation letter, and maps needing to be sent in a few cases.

Because of the Christmas and New Year Holiday we will be unable to supply hard printed copies of the Journal at the Jan 2nd meeting. Please run a spare copy off on your printer and bring it along to the meeting.

2. Our Observatory

*(a message from the President, in the **December 2002** issue)*

As members at last month's meeting heard, the Society's large telescope has now been ordered and the Lottery grant has been used in payment of a substantial deposit. The telescope will shortly be under construction by Beacon Hill Telescopes, with installation in our observatory expected in mid-2003. That means that the observatory dome now has to be made ready for the telescope! As always, the committee welcomes the views and ideas of members, along with all offers of help at the observatory.

3. Observers' Heaven! The magnificent Ringed Planet

(Extracts from the Skynotes)

Saturn: This planet is at opposition on 17th December, and is visible all night throughout the month. With a magnitude of -0.3 , it forms the golden apex of a triangle formed by itself, Betelgeuse (red) and Aldebaran (also red). Saturn should be particularly bright because its rings are wide open this winter. (From **Dec 2002**)

This month **Saturn** is still nearly as close as it has been for 29 years and, at the same time, has its rings wide open. To add the final touch to this great opportunity to observe Saturn with a small telescope is the fact that it is high in the sky, lying between the constellations of Gemini and Taurus, and is thus seen through a minimum of atmospheric turbulence.

(From **Feb 2003**)

(Those were the days!)

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 Commission for Dark Skies

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VICE CHAIRMAN:

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(vacant post:)

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DIRECTOR OF OBSERVING:

David Buxton

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

Meetings

Our formal meetings, often with an illustrated talk by a guest speaker, are held on the first Thursday of each month (except in August) at:

**Gotham Memorial Hall
Gotham
Nottingham NG11 0HE**

Doors open	7.00pm
Meetings start	8.00pm
Meetings end	10.00pm

These meetings are open to the public, and visitors are welcome to attend.

Annual subscriptions 2018

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.

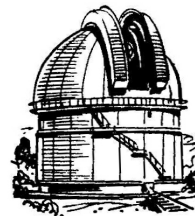
The Nottingham Astronomical Society

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NOTTINGHAM ASTRONOMICAL SOCIETY

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Affiliated to the British Astronomical Association
Member of the Federation of Astronomical Societies

Registered Charity No. 1174745
Member of the Society for Popular Astronomy
Supporter of the Commission for Dark Skies



Membership application and Gift Aid declaration

Title:

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Subscription rate:	Full	(year)	(half year)
	Partnership	(year)	(half year)
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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.

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