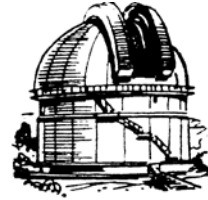

Journal

of the

Nottingham Astronomical Society
September 2016



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Thursday, September 1st

**British Geological Survey
Nicker Hill, Keyworth**

8 pm (doors open at 7.30pm)

This evening we welcome the irrepressible

Paul Money



who will be speaking on

**" Into the Darkness
but Shining a Light"**

**- the latest amazing pictures of Pluto
from the New Horizons probe**

Our 70th Birthday BBQ, August 6th: The best so far!

Thanks to everyone whose effort contributed to the success of the event,
and to whoever arranged the glorious weather! *(Image: Barrie Chacksfield)*



Sky Notes

September 2016

Compiled by Roy Gretton



All times given below are in British Summer Time

The **Autumnal Equinox** (Southward Equinox) occurs at 3:21pm on September 22nd. The Sun will be precisely over the Earth's equator at that time.

PHASES OF THE MOON

<i>Phase</i>	<i>Date and time</i>
New Moon	10:03am on September 1 st
First Quarter	12:49pm on the 9 th
Full Moon	8:05pm on the 16 th
Last Quarter	10:56am on the 23 rd

When Full this month, the Moon will be slightly dimmed as it will be passing through the Earth's penumbral shadow. Greatest eclipse will occur at 7:55pm, but you will have to be very keen-eyed to notice that anything unusual is happening!

This month the Moon is closest to the Earth on the 18th, and furthest on the 6th.

THE PLANETS

Mercury passes through inferior conjunction (between Earth and Sun) on September 12th, after which it emerges as a morning object, reaching greatest western elongation (18 degrees) on the 28th. This will be a favourable apparition for observers in the northern hemisphere, and will last into the first half of October. Look for a bright "spark" above the eastern horizon about an hour before sunrise.

Venus is preparing to put on a brilliant show in our evening sky during the coming winter, but as September begins it will not be easy to observe, very close to horizon. By the end of the month you may spot it shining at magnitude -3.9 low down in the southwest after sunset.

Mars, usually a fast-mover in our sky, begins September in the constellation of Scorpius, then moves into Ophiuchus, and over into Sagittarius before the month ends. It is far less prominent than it was in the early summer, and will be setting before 10pm by the end of September, when it's angular diameter will have diminished to less than 9 arcseconds.

Jupiter is unobservable this month, as it reaches conjunction with the Sun on September 26th.

Saturn is becoming increasingly difficult to observe, as it remains well to the south (declination always more negative than -20 degrees), and it will be setting at 9pm by the end of September.

Uranus continues to move slowly through the constellation of Pisces. It will be above our horizon for most of the night as September ends, and will by then be shining at magnitude 5.8.

Neptune, in the constellation of Aquarius, will be at opposition to the Sun on September 2nd, and will be about 30 degrees above the southern horizon at 1 am. At magnitude +7.8 it will be a fairly easy binocular object, if you know precisely where to look.

METEORS

September isn't a great month for meteor showers, although there is usually a feeble "drizzle" of meteors close to the plane of the ecliptic at this time of year. Some of these are characterised as **Piscids**, that typically give a handful of events per hour at maximum, which this year occurs on September 8th.

DIARY DATES 2016

Monthly Meetings of the Nottingham Astronomical Society

Our programme for this year is shown below. 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.

Our meetings are held on the **FIRST THURSDAY** of the month, at the British Geological Survey, Keyworth, Notts, NG12 5GG

(except **August**, when we meet at our observatory site, between Cotgrave and Cropwell Bishop)
Doors open at 7:30pm for 8pm start.

<u>Date</u>	<u>Topic</u>	<u>Speaker</u>
September 1 st	" Into the Darkness but Shining a Light" - the latest amazing pictures of Pluto from the New Horizons probe	Paul Money
October 6 th	Open Evening <i>including a Telescope Surgery</i>	
November 3 rd	Annual General Meeting 2016	
December 1 st	Galactic Monsters: Seyfert Galaxies, Radio Galaxies and Quasars	Dr Marek Kukula <i>Greenwich Observatory</i>

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.

The Sky at Night: Whirlpool Galaxy Day

This June the BBC's Sky at Night team dedicated an entire episode to M51 The Whirlpool Galaxy. The programme focused on the latest research into the galaxy and the presenters interviewed leading astronomers about their latest findings. There were some fascinating insights into the formation of the galaxy and how it's interaction with NGC 5195 has led to its current beautiful shape. They used a variety of large telescopes around the world to image M51 in a wide range of wavelengths in order to study such details as the rate of star formation and to reveal the enormous cloud of hydrogen gas that surrounds the galaxy. A few weeks before the broadcast, the Sky at Night production team tweeted a request for viewers' images of The Whirlpool Galaxy taken on a specific date, June 6th 2016, which they informally named Whirlpool Galaxy Day. Of course, as always, that particular night was clouded out so they extended the request to a few weeks either side of that date. I had just completed an image of M51, so I speculatively emailed in my picture to them. When the programme was broadcast on Sunday 12th June I was delighted to find that they had decided to use my image amongst a group of viewers' pictures.

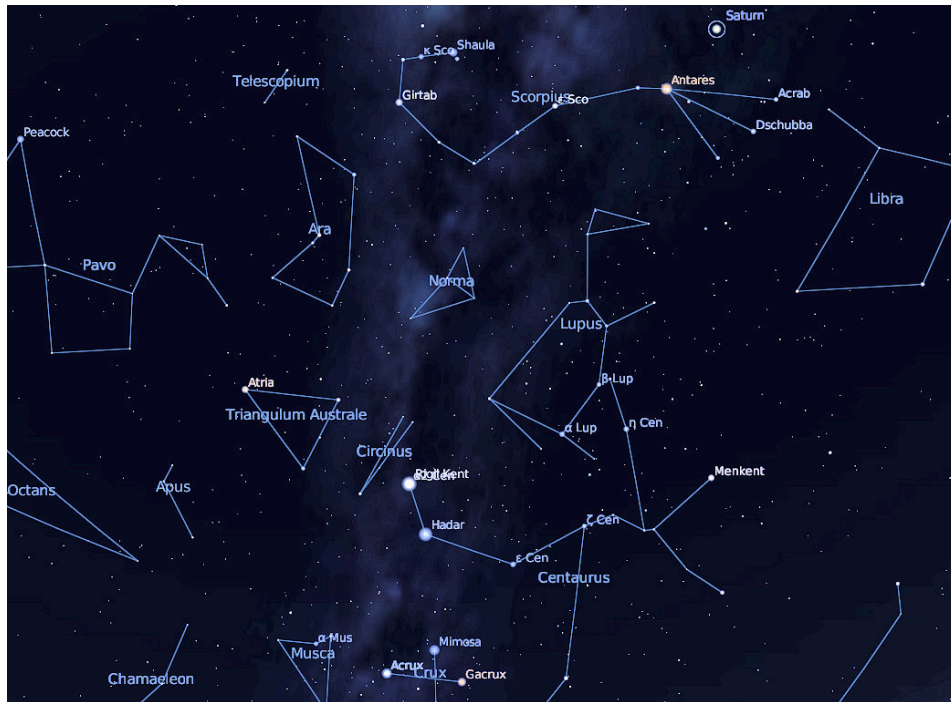


I am particularly pleased because I only took up astrophotography about a year ago and I have only had the equipment for deep-sky imaging since January. The image data was collected from my back garden in Keyworth and is constructed from 12 x 180 second exposures at ISO 1600 (plus calibration frames). This was then stacked with DeepSkyStacker and processed in Canon Digital Photo Professional. The equipment used was a Celestron NexStar102 SLT refractor on a Sky-Watcher EQ3 Pro mount, with an Altair CLS filter and Canon 700d DSLR.

Gareth Davies

Looking up from Rio

I have never yet (in my 72 years) been further south than the Canary Islands, which are roughly 28 degrees *north* of the equator, so I am looking forward to visiting Rio de Janeiro (23 degrees *south*) for a couple of weeks, beginning September 5th. As an amateur astronomer, there is the expectation of seeing the southern constellations, right down to the south celestial pole, which is in the constellation of Octans. The early evening view from Rio, looking southwest in mid-September, looks something like this:



Objects of particular interest to observers using the naked eye or binoculars are: Alpha Centauri (also known as Rigel Kent), the main component of the closest star system to our Sun; the Milky Way as it passes through Sagittarius and Scorpius (which will be overhead); and various star clusters which abound in this area of sky.

The best known astronomical establishment in Rio is the *Museum of Astronomy and Related Sciences*, which according to its website houses “a permanent exhibition with interactive experiments in the basement, countless scientific instruments, a scaled model of the Solar System, and even a large chunk of asteroid on display in the courtyard.” And it goes on to say that “*its best-known and most loved regular activity occurs every Saturday night when its telescopes, some over a century-old, as well as some modern models, are made available for the public to use in the building's dome.*”



However, this tempting offer comes with a health warning:

“The museum is located in São Cristóvão which is not a particularly touristy area, and according to some reports can get a bit rough, especially after dark. Take reasonable precautions if visiting the museum after dark.”

Of course, I expect the immediate vicinity of Rio to be heavily light-polluted, so I would need to get out into real darkness in order to see the stars to advantage. How I might organise this is not known at present...and in any case, there will be major distractions associated with the principal reason for my visit to Brazil, which is to watch my granddaughter, **Eleanor Robinson**, swim for Great Britain in the 2016 Paralympic Games.

Four years ago Eleanor (“Ellie” to the media) had never swum competitively, and wasn’t even a member of a swimming club, but now holds a World Record and four British records for the butterfly stroke, and the British record in the 50-metre freestyle.



Eleanor in action in the European Championships in Madeira in May



Eleanor’s gold medal for the 50 metre butterfly event at Glasgow in April, when she qualified for the Rio Paralympics



Her official GB Paralympic photo

Eleanor will be competing in the following events in Rio (all S6 classification):

- September 9th : 50 metre butterfly
- 10th: 50 metre freestyle
- 12th: 400 metre freestyle
- 17th: 100 metre freestyle

Astronomy will have to take a back seat on these occasions!

Roy Gretton

NAS Helpdesk

We look forward to seeing everyone back after the summer break. Have you got some new kit you want help with or just to bring along and show us? Or do you have some plans for the new observing season and want to sound them out. Come and see us. As always, we'll have some astronomy magazines looking for a good home, and if you have any you no longer want bring them along as someone else will likely take them away to read.

James Dawson, Bob Richardson and Richard Severn
helpdesk@nottinghamastro.org.uk

The NAS 2016 Summer BBQ: Saturday 6th August



By James Dawson

As readers of the Nottingham Astronomical Society's Journal will know, 2016 marks the 70th year for the Society and the committee decided the summer BBQ would be an ideal opportunity to celebrate the occasion. Committee members Lynda Foot and James Dawson were tasked with arranging the BBQ and the birthday celebrations.

Preparations for the event started back in May with numerous meetings and email exchanges, and lists galore. A meeting in the daylight at the observatory revealed how tired the observatory was looking and that it required some tender loving care before the big day.



A site inspection of the observatory in early July; photograph taken after the paved area had been extensively weeded. Lynda Foot and Richard Severn in the foreground

James (aided by Richard Severn, Lynda and Bernard Foot, John Hurst, Rob Bush, Fred Hopper, Barrie Chacksfield, Margaret Dawson and Leigh Blake) set about tidying up the observatory: the grass mown; woodwork and doors sanded and painted; the exterior of the dome scrubbed; the interior of the dome cleaned; holes in the flat roof repaired; brick work cleaned; hedge trimmed; guttering replaced... The site was transformed!



Richard Severn painting the exterior woodwork under the supervision of Bernard Foot, whilst the annex to the observatory is cleaned and painted inside



The observatory after its makeover, on the morning of the BBQ

As well as mucking in with jobs at the observatory, Lynda had been busy planning the day itself. Tables, gazebos, cutlery and plates, sausages for VIP guests, who would fry the onions? This was an important celebration, it needed to run smoothly. And then there was the cake, no birthday celebration can be without a cake. Lynda recruited her friends Michelle Bee and Cath Wallace to cook and decorate two cakes for the event and we are very grateful to Michelle and Cath for these.

On the big day, the gazebos were put up, display boards assembled, solar scopes aligned and the BBQs were lit at 1pm. The first guests starting arriving just before 2pm. The weather was glorious, and the site was bathed in sunlight throughout the whole day which allowed everyone the opportunity to observe our nearest star as well as enjoy the rest of the event.



*Members and guests observing the Sun through white light filters and in hydrogen alpha
(image: John Billett)*

Our current President, John Hurst, had put together a display of images and notes relating to the history of the Society and of the observatory, using images and records collated mainly by Brian Griffin. During his research, John found an article from 1921 which indicated that a Nottingham Astronomical Society had been established in that year, 25 years before 1946

which we all thought was the origin of the Society. More research is being undertaken to investigate this, but this is a fascinating find.



Lorraine Goss (NAS Librarian) talking with Mr Alan Heath (past president), whilst David Anderson (NAS Treasurer) performs quality control checks on the burgers (image: John Billett)

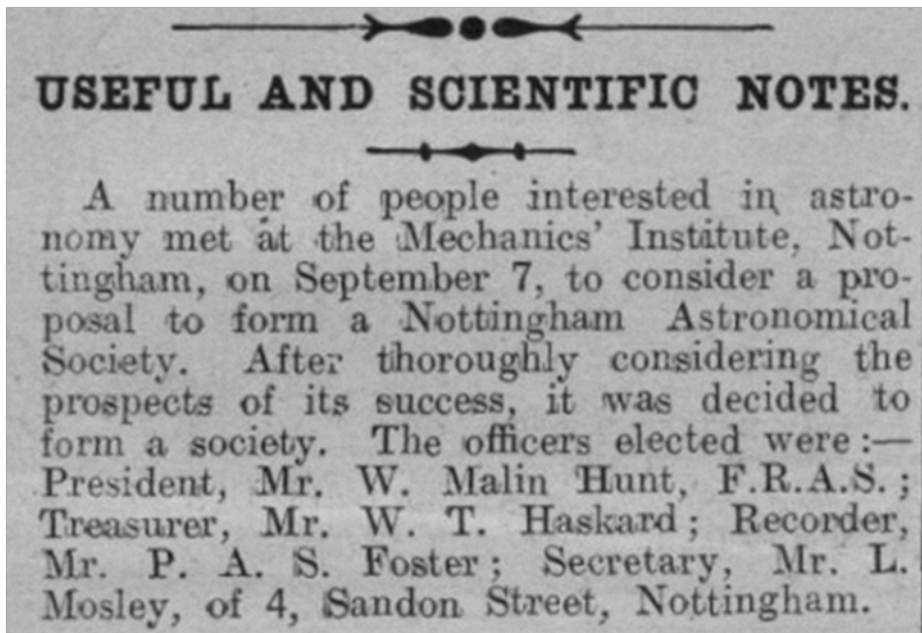
Mr Alan Heath cuts the astronomically-themed birthday cake, accompanied by John Hurst, current NAS President (image: Barrie Chacksfield)



Several past presidents of the Society attended the BBQ, including Fred Hopper, Greg Eisenhower, Chrissie Wells and Alan Heath. Mr Heath first joined the Society in 1952, and was elected its president in 1965; Mr Heath has been a life-long planetary and lunar observer and has been a past director of the BAA's Saturn Section. When the time came to cut the cake, it only seemed appropriate that Mr Heath undertake this task.

In all about 50 people attended the BBQ. Professor Mike Merrifield from the University of Nottingham who opened the observatory in 2006 joined us, and together with Mr Heath drew tickets for the raffle which raised £113.05. The money raised is going towards new batteries for the observatory.

A great day was had by all, and the event was a fitting tribute to the last 70 years, and to all those people who have devoted their time and effort into making the Society an ongoing success. Whether we should be celebrating the centenary of the Society in 2021 is a moot point, but as we research this further we will keep you informed.



*From:
The English
Mechanic,
September 16, 1921*

Here's to another 70 years at least.

Thanks to everyone who helped in tidying up the observatory in advance of the BBQ (and after), and to those who helped on the day. Special thanks go to Richard Severn and to Fred Hopper, and most of all to my partner in crime, Lynda Foot for going that extra mile to really make it a special day for the Society and for all who attended.



A Note from our Librarian:

For those of you who are fans of Damien Peach, he credits one of his early Astronomy influences as Patrick Moore's 'Travellers in Space and Time'. Published in 1983 (one of the series of St Michael books), we have recently got hold of a copy. So if you want to find out where it all began for Mr Peach, go to

<https://www.dropbox.com/s/q37khu66ncbwi45/NAS%20library%20catalogue.pdf?dl=0/>

Kind regards

Lorraine

Advertisement

FOR SALE

Set of four 1¼-inch coloured filters (red, yellow, green, blue)	£20
Mars filter 1¼-inch	£10
Moon filter 1¼-inch (25% transmission)	£10
Filter case (holds up to four 1¼-inch filters)	£2
Celestron lens pen	£2
Micro-fibre cleaning cloth	£2

Sam Boote s.boote@bcs.org or at Society meetings

NOTE to NAS Members and Journal Subscribers

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

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:

John Hurst

e-mail: president@nottinghamastro.org.uk

VICE PRESIDENT:

Roy Gretton

e-mail: vicepresident@nottinghamastro.org.uk

SECRETARY:

Richard Myrie

e-mail: secretary@nottinghamastro.org.uk

TREASURER:

David Anderson

e-mail: treasurer@nottinghamastro.org.uk

JOURNAL EDITOR:

Roy Gretton

e-mail: nottinghamastrojournal@gmail.com

CURATOR OF INSTRUMENTS:

Robert Bush

e-mail: curator@nottinghamastro.org.uk

DIRECTOR OF OBSERVING:

(vacant post; Acting Director: John Hurst)

email: observatory@nottinghamastro.org.uk

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

ORDINARY COMMITTEE MEMBERS:

Sam Boote

Barrie Chacksfield

James Dawson

Lynda Foot

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 welcome to attend.

Annual subscriptions 2016

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.

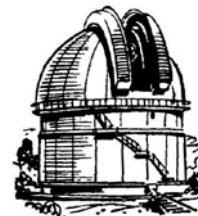
The Nottingham Astronomical Society

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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

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