Journal

of the

Nottingham Astronomical Society

May 2025

In this issue

Thursday, May 1st

Nottingham Emmanuel School
Gresham Park Road,
West Bridgford,
Nottingham, NG2 7YF

7:45pm (doors open at 7:15pm)

This evening we welcome

Rolf Williams

who will be speaking on

The US Space Shuttle Up Close

Chairman's Message, May 2025

Dear Members,

This year just seems to be flying by! We were hoping to do some more observing from the observatory but our landlords, Seven Trent, are currently doing some deep excavations around the reservoir. They have quite a few machines on site, and some very deep holes, so it is not really safe for visitors currently.

Meanwhile we had an excellent masterclass on processing image data from Leigh, and at the next Plumtree meeting we will be looking at members astronomical drawings – so please participate.

Our next Emmanuel meeting will be on the Space Shuttle, and we are still checking whether the venue is available due to a Forest match taking place the same evening. Keep your eyes open for an update on that, when we know more from the school.

Julian
NAS Chair

Sky Notes
May 2025

Compiled by Roy Gretton

All times given below are in British Summer Time

Even if we had no artificial light pollution (imagine *that!*), no part of the sky at the latitude of Nottingham would be completely dark between May 17th and July 26th, because the Sun is never more than 18 degrees below the horizon throughout this period. Put another way, **astronomical twilight** persists throughout the night, and this restricts our scope for observing/imaging faint objects. Even so, there are plenty of distant objects that can be still be observed as the nights (hopefully) get warmer with the approach of summer.
With Jupiter now beginning to disappear into the sunset glow and Mercury unobservable, Mars will be the only planet visible in the evening sky by the end of May. Meanwhile, for early risers, Venus will be putting on a brilliant appearance before sunrise.

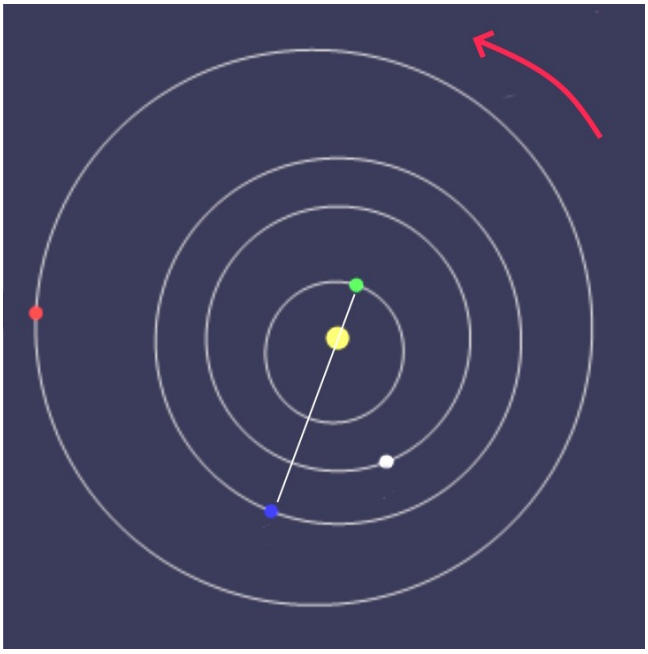
PHASES OF THE MOON

Phase	Date
First Quarter	May 4th
Full Moon	May 12th
Last Quarter	May 20th
New Moon	May 27th

This month the Moon is closest to Earth on the 26th, and furthest on the 11th.

THE PLANETS

The inner solar system on May 30th: ***Mercury*** *(green dot) on the opposite side of the Sun from* ***Earth*** *(blue dot) is at superior conjunction.* ***Venus*** *(white dot) to the west of the Sun, is a morning object.* ***Mars*** *(red dot) to the east of the Sun, is an evening object.*



Mercury is a morning object, moving in toward the Sun to reach superior conjunction on May 30th.

Venus begins the month 40 degrees from the Sun in the morning sky and shining at a brilliant magnitude -4.7. On May 31st it will be at greatest western elongation, 46 degrees from the Sun.

Mars is now a relatively inconspicuous object with an angular diameter of 6 arcseconds, shining at magnitude +1 but continually fading. It begins May in the constellation of Cancer but crosses over into Leo in the last week of the month.

In mid-May **Jupiter** will be disappearing soon after 10pm, and by the close of the month will have been swallowed up in the sunset glow as it heads toward conjunction in June.

Saturn has now emerged into the morning sky but remains low and difficult to observe (but we have only 4 more months to wait until it reaches opposition).

Uranus is at conjunction with the Sun on May 18th, and therefore unobservable.

Neptune is a difficult morning object, but keen observers may be able to locate it just two degrees south of the brilliant Venus on May 4th.

METEORS

The **Eta Aquarids** reach maximum activity (40 meteors per hour under ideal conditions – not here but at latitudes well to the south of the British Isles) on May 6th, with a 9 day-old Moon.

A headine from **The Times** of 21st March 2025:

"Gen Z look to the stars as popularity of astronomy goes into orbit"

The accompanying article explains that young people have a "new obsession with astronomy", with sales of telescopes and binoculars "up 930 per cent week-on-week ... and 1,380 per cent year-on-year", as "stargazing suppers and hotels in dark sky areas of the UK are booked out."

At the same time the article laments the spread of light pollution. "Currently, almost a third of Earth's inhabitants can no longer see their host galaxy, the Milky Way, from home."

But nevertheless, "Astronomy is a balm. It is both a pleasing distraction from terrestrial concerns and a reminder of the true order of things: that man is merely the temporary occupant of a mote, adrift in a universe of unimaginable age and scale."

A sentiment with which we can all agree.

DIARY DATES 2025

Monthly Meetings of the Nottingham Astronomical Society

1. Meetings at
Nottingham Emmanuel School
Gresham Park Road,
West Bridgford,
Nottingham, NG2 7YF

Held on the **FIRST Thursday** of each month **(unless otherwise stated)**
except **August**

Doors open at 7:15pm for 7:45pm start.

*These events are normally centred around a talk by a visiting speaker, except Quiz Nights, etc, when NAS members provide the activities. Normally we have a **Helpdesk** open at each meeting.*

Date	Topic	Speaker
May 1st	**The US Space Shuttle Up Close**	**Rolf Williams**
June 5th	**What is Dark Energy and why do we need it?**	**Prof Clare Burrage** **University of Nottingham**

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**

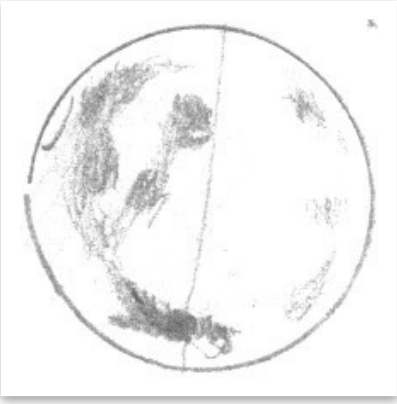
These meetings are of a more informal nature, providing opportunity for members and guests to share their hobby over a cup of tea or coffee, as well as listening to a short talk or discussion

The next meeting will be on **June 19th**

Social and Practical Astronomy, Plumtree, April 2024

The **April** 2025 Plumtree Meeting saw our webmaster Leigh talk about image processing, a topic many of us struggle with or simply just have no idea about. Leigh talked us through some basics and showed us the various packages out there and gave us a real time demonstration of how to go about processing some astronomical data. There was plenty of discussion about various aspects of image processing and I think we all took a great deal away from the talk; thank you Leigh. Chris made a gorgeous carrot cake, along with decorate carrots, which Leigh can be seen cutting here.

Leigh has made his slides available here:
https://drive.proton.me/urls/GF28169D8R#GLMLQcE4FLLu



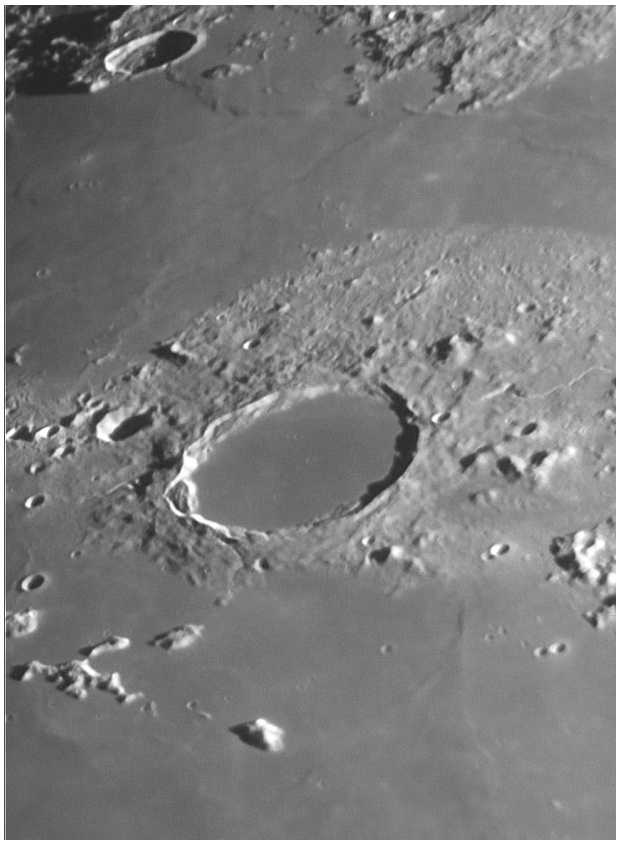
For the **May** meeting, I would like everyone to bring along an astronomical sketch they have made in 2025. This could be of the Moon, a planet, the Sun, a deep sky object, or an atmospheric phenomenon, a constellation; ideally something you've drawn at the eye piece of a telescope or through binoculars or just looking at the sky with your naked eye. Please email me these in advance so I can load them into a PowerPoint presentation. You don't have to own up to the sketch, but if you are happy to I will share names. We can talk about the objects which have been observed and drawn. Anything goes in terms of the object or medium you use to draw it with.

Please make sure it is a sketch or drawing you've undertaken in 2025. Even if you can't draw, like me, you must have a go.

James Dawson
helpdesk@nottinghamastro.org.uk

Lunar imaging with a DSLR

In an article in the February issue of this Journal I described how, after 15 years of using a DSLR camera, I had for the first time acquired the ability to capture worthwhile planetary images. This was because I'd purchased a newer DSLR capable of recording video as well as still images. This enables me to capture a couple of thousand frames of the target object, then use free software to automatically sort out the best (say) 10% or 20%, and stack them into a single combined image, which may be further sharpened by manipulation of wavelets. At the February Plumtree meeting James did a presentation on how to apply this technique to lunar imaging, so by the time the Moon was passing through First Quarter in early April, I was ready to give it a try. I chose two of my favourite craters, Plato and Copernicus, as targets – and here are the results.



Plato

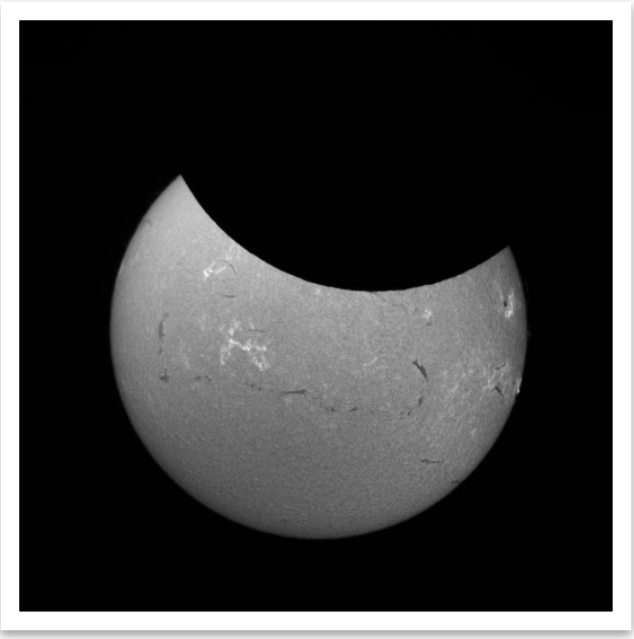
Copernicus

The procedure involves using my Celestron C11 SCT with a 9.7mm focal length eyepiece to project the image on to the Canon 700Da imaging chip, then recording roughly 2000 frames of video at 25 fps on to a fast memory card. The video is then uploaded to my laptop and its format converted from *mov* to *avi* using PIPP software. The sorting and stacking is then done with a program called Autostakkert and the resulting image sharpened using Registax 6 (or a similar program handling wavelets). The final images were cropped (slightly) using Gimp.
I find that processing my images in this way is a suitable pastime for cloudy nights!
It's interesting to reflect that when, as a boy, I caught the astronomy bug and spent much time in local libraries admiring images from the world's largest telescopes, the pictures were nowhere near as clear as those that amateurs can now capture from their back yards.

Roy Gretton

The Partial Solar Eclipse of 2025 March 29

1. Live broadcast from the Observatory

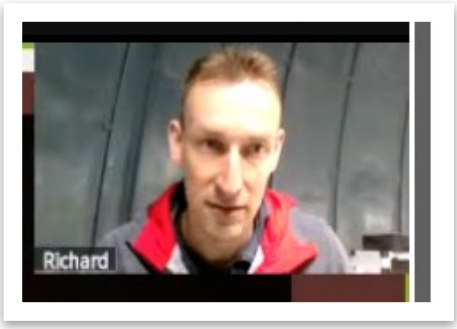


We were lucky to have mostly clear skies for the partial eclipse in March, which we broadcast live on YouTube from the Observatory both in white light and in hydrogen alpha. The image below was taken at 11:22 (UT) just after the deepest part of the eclipse with a 50mm Lunt and an ASI 174MM camera. I've uploaded this image to my BAA Member Page.

The broadcast was set up and run by Richard and I'm most grateful to him for this. Thanks also to Julian to helped with commentary at about the time of the deepest part of the eclipse.

I was sat outside the observatory with the Lunt telescope with my head in a large box to shield the laptop from the bright sun, and Richard was inside the observatory running the show and operating the 120mm refractor in white light. Julian had tried to set the Seestar up too and whilst it worked fine, he couldn't get it to broadcast the view to Zoom. We managed to see a lot of detail on the sun and there were plenty of prominences and filaments to observe and watch change over the two-hour period.

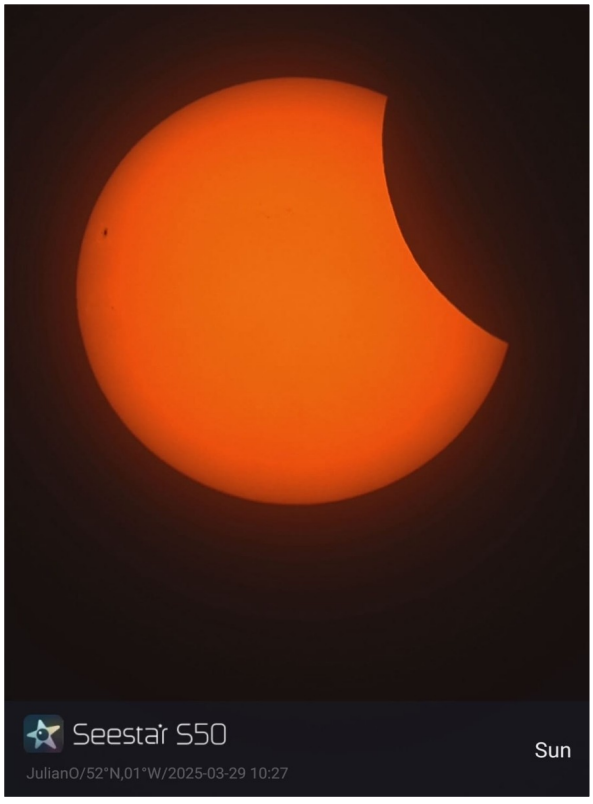
Richard has put together this montage (below) of images throughout the eclipse as viewed in white light showing the movement of the Moon across the face of the Sun over the two hour period. The changes in apparent brightness of the Sun are mostly due to periods of cloud which drifted through the field of view.



Leigh captured this image with the Seestar at 10:27 at the start of the eclipse when 13% of the Sun was obscured by the Moon.

I've had feedback that we had people viewing the live stream from Cheshire and from France, as well as members and friends more locally. It was good fun, though despite being sunny, was still rather chilly. The recording will stay on YouTube along with many of the other meetings we have held and recorded online.

The next eclipse visible from Nottingham will be a big one on 12th August 2026, where about 91% of the Sun will be obscured by the Moon at 18:11 h ours UT (19:11 BST) when the Sun will be 11 degrees above the western horizon.



The image right is taken from Stellarium to show how much of the Sun will be obscured by the Moon at that time as viewed form Nottingham Make a note in your diary.

James Dawson
helpdesk@nottinghamastro.org.uk

2. Report from Sam Boote

I visually observed the partial solar eclipse through my Celestron NexStar 6SE with Kendrick white-light filter. I used a 24 mm Panoptic eyepiece – this optical combination gave a magnification of x62 and the Sun/Moon occupied about two-thirds of the field of view. I missed the early phase of the eclipse as I'd been on a parkrun earlier that morning, but I still had enough energy in me to fire up the telescope in good time for the eclipse maximum at 11.06. The telescope is installed in my observatory and was already correctly aligned.

It was possible to see the Moon's silhouette moving in real time, and it was interesting to see how the edge of the silhouette was not perfectly smooth but represented the hilly terrain on that part of the Moon. More and more sunspots came into view as the Moon retreated. I made the end time as 12.02, though it was difficult to get an exact time, as the silhouette seemed to linger on the edge of the Sun (an optical illusion, perhaps?).

A big partial eclipse will occur between 18.14 and 20.04 on 12 August 2026, with the Sun being 91% obscured as seen from the Nottingham area. The Sun will be at an altitude of 12 degrees at the eclipse maximum at 19.11, so a low horizon will be desirable. Keen eclipse chasers will be able to observe totality from Greenland, Iceland or Spain.

3. Images from Aniket Mahapure

I used Vaonis Hestia, the Gravity app by Hestia, and an i-Phone to capture these solar eclipse images.

I used 2-3 second exposures (ISO 50) and focused manually on a distant object before putting the solar filter on. I was lucky with these images as some time later the clouds rolled in. Some of the sunspots could be seen in visible light (but not as well as with the H-alpha filter in the NAS images). Tracking was manual on a tripod with a fairly simple setup. All pictures are in real time and haven't been stacked.

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

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 X
The Society has an X account at https://twitter.com/NottinghamAstro

NAS Journal e-mailing list
To register for your monthly e-mailed link to the NAS Journal, just e-mail membership@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 membership@nottinghamastro.org.uk

The Whale Galaxy and the Hockey Stick Galaxy

On the left of this image is the Whale Galaxy, NGC 4631. Located in Canes Venatici, this galaxy has gone through a starburst event due to gravitational interaction with it's near neighbour, the dwarf galaxy NGC 4627. On the right, NGC 4656 and NGC 4657 make up the Hockey Stick Galaxy, which has also gone through a interaction, warping its shape dramatically.

Link to full image here - https://app.astrobin.com/i/50r5cr

Leigh Blake

Advertisements

FOR SALE: Unistellar eVscope 1 Smart scope & accessories

I still love my eVscope but need to fund my next astronomy project.

RRP £2937 purchased less than 4 years ago
Smart scope - 114mm (4.5”) reflector style with eyepiece
Weight: 19.8 lbs (9kg) including tripod
Control your smart telescope from your smartphone or tablet with the Unistellar app, (iOS or Android).

Best for Deep Sky Objects but modes for Planets, Moon and Sun as well as Citizen Science programs - asteroid occultations, planetary defence, exoplanets, comets, supernovae & satellites.

Includes superb back pack which still retails for £329
Bahtinov mask, Power supply with exchangeable plugs (UK,EU, USA) & Accessories box with tools & spares + user guides
Astrozap Baader Solar Filter (white light) RRP £90
Dew shield (flexible) RRP £23
Adapter for 1.25” filters (short C-mount) RRP £13
Unistellar branded merchandise - baseball cap, 2 x t-shirts, canvas bag, pen, holder, badges & stickers
£599 o.n.o. (similar on Astro Buy & Sell for £1,650)

Contact **Mark Fairfax at fairf77@icloud.com**

Telescopes for Sale

Genuine reason for sale, due to shoulder injury I find it difficult to cope with these larger scopes. Prices are negotiable , but each comes as a complete package, delivery cab be arranged.

Scope 1. £800 ono

9.25” Celestron SCT Starlight XLT

Feather touch focuser

Celestron illuminated eyepiece , upright finder

Crayford dual speed focuser with electric control

1.25” star diagonal

1.25” visual back

Antares f6.3 SCT reducer / corrector

9.25” Bahtinov mask

Heated dew shield

Telrad base

Counter weight for balancing scope on mount.

Scope 2. £250 ono

Sky Watcher D=200mm F=1000mm Parabolic Reflector(200PDS)

Crayford dual speed focuser with electric control

35mm extension eyepiece tube and Coma corrector

Bahtinov |Mask

Dew Shield

Finder scope

Telrad Base

Celestron collimating eyepiece, Next Gen Laser Collimator.

Contact Pete Hill at peter_j_hill@hotmail.com

FOR SALE

Meade Series 4000 Super-Plossl Eyepieces
Standard 1.25-inch diameter. All in mint condition

9.7 mm focal length **£19** (list price £29)
15 mm focal length **£25** (list £34)
40 mm focal length **£45** (list £65)

Contact **Roy Gretton**, 07483868162
journal@nottinghamastro.org.uk

FOR SALE

Vixen 8-24 mm zoom eyepiece
In excellent condition with box and end caps.
1.25 inch barrel.
Field of view 60 deg at 8 mm to 40 deg at 24 mm. Generous eye relief.
Not click-stop, but this might suit you better.
Price £95.

Please contact Sam Boote at sam@boote.myzen.co.uk or at Society meetings.

FOR SALE

Celestron Astro Fi **5**” Schmidt-Cassegrain telescope

Excellent condition. **£285** ono.

Also have a selection of eyepieces which could be included, and a Celestron NexYZ 3-axis universal smartphone adapter.

Seller lives in Bottesford but could deliver to the Nottingham area.
Contact Roger on 07960911804 or rbrogerblackburn@gmail.com

Nottingham Astronomical Society

Affiliated to the **B**ritish **A**stronomical **A**ssociation
Member of the **F**ederation of **A**stronomical **S**ocieties
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Holly McNiven

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

Nottingham Emmanuel School
Gresham Park Road,
West Bridgford,
Nottingham, NG2 7YF

Doors open	7:15pm
Meetings start	**7:45pm**
Meetings end	9:15 pm

These meetings are open to the public, and visitors are welcome to attend, subject to a charge of £5 per meeting for adults (£1 for concessions).

Annual subscriptions 2025

Individual	£40
Family (maximum of two adults, and children/students living at the same address)	£55
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 membership@nottinghamastro.org.uk or speak to any NAS committee member at one of our regular monthly meetings.
