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# Journal

of the

## Nottingham Astronomical Society

June 2022

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### In this issue

- E-Services
- A Message from the Chairman
- Deep sky meeting in Cambridge
- Sky Notes for June
- Diary Dates for 2022
- Social and Practical Astronomy: meeting report
- Supernova SN2022hrs
- My eVscope and Comet C/2017 K2
- Astronomy with an online telescope
- Observatory evening
- My New Observatory
- Advertisement
- Society Information

**Thursday, 9<sup>th</sup> June**

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

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

**This evening we welcome**

**Peter Jenkins  
FRAS**

**who will be speaking on**

**Imaging from light-polluted sites**

### **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 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 link to the NAS Journal, and a copy of our SkyNotes, 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.

*If you happen to change your email address, please remember to inform the Society by emailing us at [treasurer@nottinghamastro.org.uk](mailto:treasurer@nottinghamastro.org.uk)*

## Chairman's Message, June 2022

Hello everyone,

Hope you are all well. The weather is getting better, but not necessarily for observing! We have had a couple of good observatory days, with a solar one and an evening one, both of which were well attended. We hope to have some more, but it gets ever later to get dark enough to see things! In other news, we are in the process of obtaining a container to put behind the observatory to store things in so we don't have to ferret under the observing stage quite so much. The chicken farm planning is still ongoing, although the consultation period is over. We have done what we can and will have to wait for the results. Meanwhile there is the BAA day at Nottingham, which everyone is welcome to attend. The membership can use the code "cosmo" to obtain a discount across the day to attend all the talks and reports. Visit [baa-nottingham-2022.eventbrite.co.uk](https://baa-nottingham-2022.eventbrite.co.uk) for information and to register. The next meeting that I will unfortunately miss is about doing astrophotography from light polluted sites, so should be of interest. If nothing else, Peter has taken some absolutely stunning images over the years, so they will be worth seeing alone.

**Julian,**  
NAS chair

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## Webb Deep Sky Meeting in Cambridge Institute of Astronomy

**Saturday 18th June 2022**

If you are interested in deep sky objects then you will enjoy a day of talks on these to be held in Cambridge in a couple of weeks. The event is held at the iconic Institute of Astronomy and the day is finished off by a talk by the Astronomer Royal.

The event only costs £20 (which includes lunch), but booking is required. See information in the link below:

<https://www.webbdeepsky.com/annual-meeting/year/2022>

# Sky Notes

## June 2022

Compiled by Roy Gretton

*All times given below are in British Summer Time*



The northern hemisphere **Summer Solstice** occurs at a quarter past ten on the morning of June 21<sup>st</sup>, making this ‘the longest day’ of 2022.

For the whole of this month, Astronomical Twilight will persist throughout the night at our latitude.

### PHASES OF THE MOON

<i>Phase</i>	<i>Date</i>
First Quarter	June 7 <sup>th</sup>
Full Moon	June 14 <sup>h</sup>
Last Quarter	June 21 <sup>st</sup>
New Moon	June 29 <sup>th</sup>

This month the Moon is closest to Earth on the 14<sup>th</sup> – so expect a **large** Full Moon, the **largest of 2022** – and furthest on the 29<sup>h</sup>.

### THE PLANETS

**Mercury** is a morning object through the whole of this month, passing through greatest western elongation (23 degrees) on June 16<sup>th</sup>, when it will be very difficult to spot in a bright pre-dawn sky.

**Venus** continues to shine brightly (magnitude -3.9) in the hour before sunrise, but always low down in a bright sky.

**Mars** will be rising at 2 am in mid-June, reaching an angular diameter of 7 arcseconds and magnitude 0.5. It was now north of the celestial equator in the constellation of Pisces.

**Jupiter**, also in Pisces, sits very close to the celestial equator, rising at 1 am in mid-month, and shining at magnitude -2.4.

**Saturn**, still in Capricornus, will be rising at midnight in mid-June. By then it will be shining at magnitude 0.7, with the ring system appearing 40 arcseconds across.

**Uranus**, in the constellation of Aries, will be rising at 2 am by the end of June.

**Neptune**, close to the border between Aquarius and Pisces, will be rising shortly after midnight as June ends.

## METEORS

With its lack of true darkness, June is not the best time of the year for observing meteors, and there are no major showers during the month.

## NOCTILUCENT CLOUDS

Once again we have entered the NLC season. Noctilucent clouds are pale blue filamentary clouds, formed about 50 miles above the Earth's surface, far above the normal clouds we associate with the weather. They are best observed in June and July (from the northern hemisphere), becoming visible when illuminated by the Sun when it is well below the horizon. They are still poorly understood, but their pale blue-white appearance is quite distinctive. If you wish to see noctilucent clouds, look toward the north on a clear evening after 10pm.



Noctilucent clouds imaged by Gareth Davies in 2020  
(an image also showing “ordinary” clouds, for comparison)

## DIARY DATES 2022

### 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 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
June 9 <sup>th</sup> *	Imaging from light polluted sites	Peter Jenkins FRAS
July 7 <sup>th</sup>	Mars	Richard McKim Director of the BAA Mars Section
August 6 <sup>th</sup>	Summer Barbecue at the Observatory	
September 1 <sup>st</sup>	(Topic to be confirmed)	Dr Steve Barrett
October 6 <sup>th</sup>	The Cosmic Web	Prof Alfonso Aragon- Salamanca

\* June 2<sup>nd</sup> is a national holiday

### 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 16<sup>th</sup> June**

## Social and Practical Astronomy, Plumtree, May 2022

Our May Plumtree meeting consisted of three excellent talks by Roan Haggar, Kellie de Vos and Daniel Cornwall, all undertaking post-graduate research at the University of Nottingham. All three are in the School of Physics and Astronomy and studying for a PhD, and although their research areas are diverse, they all relate to galaxy clusters.

We learnt about the structure of the Universe and the cosmic web, and the role galaxy clusters play in this. We learnt how simulation is used in combination with observational data to gain a better understanding of how galaxy clusters form and interact.

The evening was chair by Julian and the questions from the floor were diverse and stimulated a good amount of discussion. I think the question and answer session could have gone on for several hours.



It was great to hear about the work these young researchers are undertaking and we wish them all the best and hope they will come back again to give us an update. Pictured above is Dan Cornwall.

The new audio-visual equipment in the Burnside Memorial Hall worked perfectly. We would like to thank the Burnside Memorial Hall Committee for investing in this and we look forward to many more enjoyable evenings at the hall.

The June Plumtree meeting is yet to be finalised. Do send me ideas for future meetings relating to practical astronomy.

**James Dawson**

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

# Supernova SN2022hrs - a before and after

by Mark Fairfax

Supernova SN2022hrs in Virgo is highlighted in the centre of the “after” image in NGC 4647 (a HII Spiral Galaxy mag +12.50) and M60 just below (an Elliptical Galaxy magnitude +9.75).

With the Moon out of the way it was an ideal time to observe the peaking Type Ia supernova that was discovered on the 16th April. It seems to be about magnitude +12.5 and well separated from the core of the host galaxy, aiding observation.

## BEFORE



## AFTER



# My eVscope, it's full of stars!

by Mark Fairfax

C/2017 K2 (PanSTARRS) is highlighted in the centre of this image and is an Oort cloud comet with a hyperbolic orbit - here in the constellation Aquila at magnitude +8.7.

The bit of sky targeted appeared pretty blank to the naked eye with just a few stars but just astounded by how many stars were visible here at the edge of the Milky Way with my eVscope from my urban, light-polluted, little back garden.

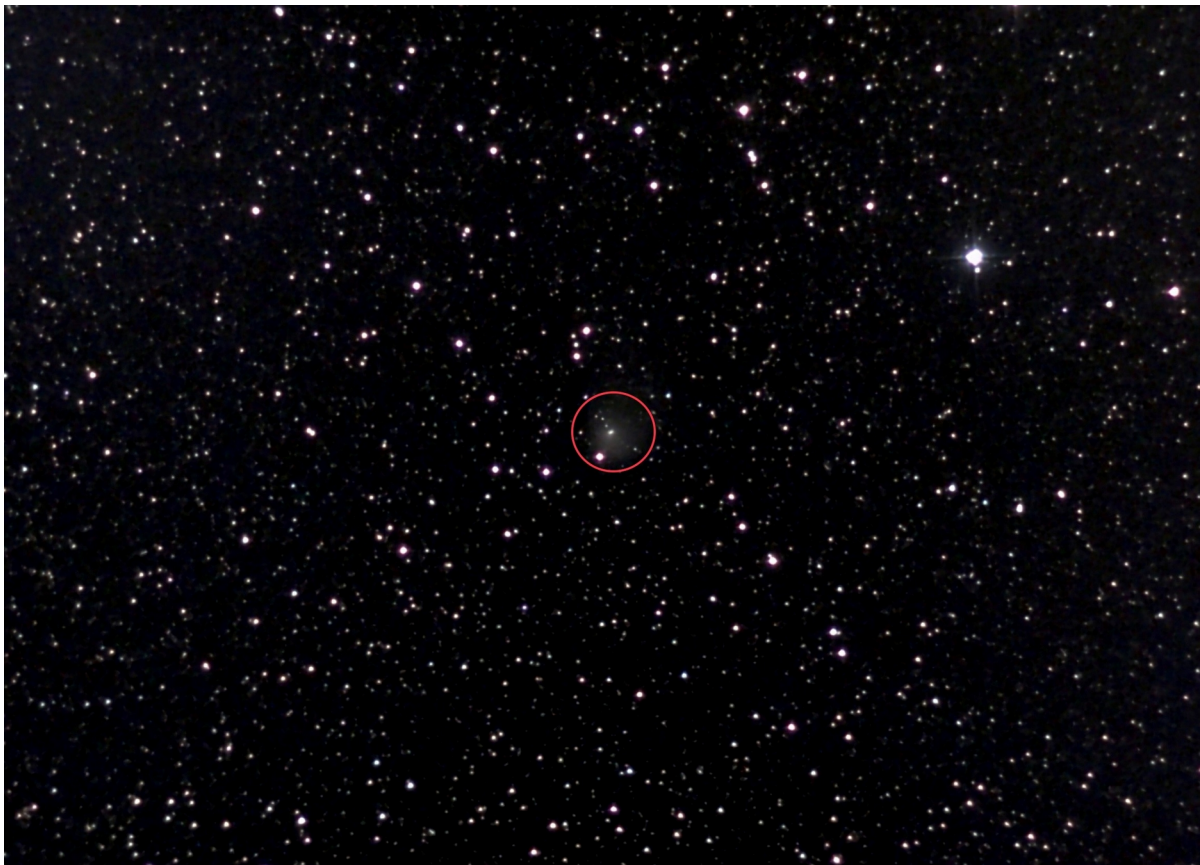
Unistellar eVscope - 20mins Enhanced Vision

9 May 2022 - 02:55 local time @ 53°N 1°W

Dew shield & no filter

Moderate seeing

50% illuminated Moon just saying goodbye near the horizon



C/2017 K2 (PanSTARRS) circled

## OpenLearn course on 'Astronomy with an online telescope'

by Dane Atkin

Following an excellent presentation by Julian at the February Plumtree meeting, I followed up one suggestion to look at OpenLearn courses in Astronomy. I can recommend these for anyone on a steep learning curve like myself.

I have attached some recent images which I've taken including a few from the robotic telescope you can use in the 'Astronomy with an on-line telescope' course.

<https://www.open.edu/openlearn/science-maths-technology/astronomy/astronomy-online-telescope/content-section-overview?active-tab=description-tab>



M101 with the OpenLearn robotic telescope



M101 with my telescope



M64 with OpenLearn robotic telescope



M3 with OpenLearn robotic telescope



M51 with OpenLearn robotic telescope



M51 with my telescope



M13 with my telescope

My pictures were taken with a 125 mm refractor and canon 760D compared to those taken with The OU COAST telescope. The post-image processing has been fairly basic using mainly Siri and/or gimp.

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## **Observatory evening - a view from the Technology Area**

**by Mark Fairfax**

*Friday the 13th (an omen) May from 9pm at the NAS Observatory*

A good turn-out and a few telescopes set up too. I set up my Unistellar eVscope in the technology area with Mike's eVscope and Richard's Vaonis Stellina. Well despite our perseverance and best efforts the clouds were well & truly against us all night long. Looking for any kind of gaps in the clouds for stars to plate-solve proved taxing but I managed it after a while by aiming high. Amazingly I managed to grab a couple of targets despite the very thick, fast-moving cloud cover.

I got M81 - Bodes Galaxy for 22 mins, M82 - The Cigar Galaxy for 2 mins and live views of the 93% illuminated Moon dancing with the clouds. (I think Richard got The Butterfly Nebula for 2 mins).

Despite the frustrating weather it was very nice to socialise, talk Astronomy & always great to go up to the Observatory anyway!

**Messier 81** (also known as NGC 3031 & Bode's Galaxy) is a Seyfert 2 Spiral Galaxy some 12 million light-years away in the constellation Ursa Major at magnitude +6.9. It has a supermassive black hole that is 15 times larger than the recently imaged Sgr A at the centre of our Milky Way.



**Messier 82** (also known as NGC 3034 & the Cigar Galaxy) is a starburst galaxy about 12 million light-years away in the constellation Ursa Major at magnitude +8.4. It is smaller but brighter than our Milky Way - about 5 times more luminous and has a centre one hundred times more luminous.



## My “New” Observatory

It’s fabulous now to just nip out to my observatory when the sky is clear and get acquainted with my C8 telescope which we picked up from Sheffield over a year ago.

I’d like to say a huge thank you to Roy Gretton for gifting me his observatory dome. After some concerns about the logistics of getting a team together to dismantle and move it, the job was surprisingly quick and easy in the end. Sunday 9th January arrived and was a lovely sunny day after a very cold morning. (But the previous day had seen heavy rain all day long, so this was much better).

Ray and I arrived half an hour before the rest of ‘The Gang’, as the plan was for us to remove the track wheels in advance to save time, so that all they would have to do was lift off the dome. But we were still trying to remove the two last remaining bolts when they arrived.



The bolts were totally stuck so unfortunately plan B had to be implemented, which involved splitting the front section of the dome and then wangling it over the track. To everyone’s relief and delight – not least mine – it worked. With many hands at work the rest of the job removing bolts and splitting sections went quickly.



So two hours later it was safely packed in the campervan! So I’d also like to thank Roy, on behalf of everyone involved, for giving us not only ‘my dome’ but a really fun morning’s work, which everyone thoroughly enjoyed. The weather, excellent for a January day, definitely made the experience a lot more pleasant than it might otherwise have been.

It was many weeks (or so it seemed) before work could start on re-erecting the dome. It rained and rained and rained much to my dismay. Work finally got underway on 11th February 2022, starting with the partial clearing of the area and laying a concrete base, again between the rain.



Because it worked so well in the small space, and as it was the best method of construction that we knew of, we used Roy's design with very little alteration except for his extra advice on making the roof more watertight by extending the fibreglass layer partially up the track wall itself.





Again a huge thank you, Roy. My observatory is now up and running as of the 1<sup>st</sup> April, which is more than I can say for my telescope at the minute, requiring a fair bit to do with that yet, such as levelling, centralising and aligning.

**Shirley Bowley**

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## **ADVERTISEMENT**

### **FOR SALE**

Set of four coloured 1.25-inch filters £25

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

# Nottingham Astronomical Society

Affiliated to the **British Astronomical Association**  
Member of the **Federation of Astronomical Societies**  
Supporters of the **Commission for Dark Skies**

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**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:

**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 £3 per meeting for adults.

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**Annual subscriptions 2022**

Full	£30
Joint rate for partners living at the same address	£45
Under-18s and full-time students	£5

Subscriptions become due on 1<sup>st</sup> January. Half-price subscription is charged if joining after 30<sup>th</sup> June (minimum subscription £5).

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.

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**The Nottingham Astronomical Society**

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