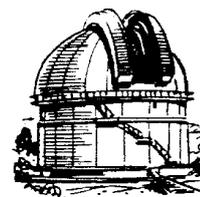

Journal

of the

Nottingham Astronomical Society

September 2021



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Thursday, September 2nd

**Gotham Memorial Hall
Gotham, NG11 0HE**

8pm (doors open at 7pm)

This evening we welcome

**Paul Money,
FRAS, FBIS**



who will be speaking on

The Vikings at Barsoom

Part 2: The Search for Life



The NAS Summer Barbecue 2021

Chairman's Message – September 2021

Dear all,

Well, some sort of normality is finally returning. We had a great turnout for the barbecue, and the weather stayed mostly on our side, with just one brief rain shower. It was so great to meet everyone and show them the site, and just to socialise. We then also had a Thursday night meteor watch for the Perseids, which also went very well - I saw about 4, and missed about 20! We had some good views of Venus, Jupiter and Saturn with the new telescope, all rather low down but none the less good, during the evening. However when closing up, disaster struck when we struggled to close the dome slit. Finally managing it, it became apparent that the tensioning springs had stretched beyond their limit. They have probably been there since 2004, so have done a good job, but finally gave up the ghost that night - they had been tricky for a while. New springs are on order, but until then the dome is out of action, but may be back working by the time this Journal hits. There are plans afoot for more observing evenings as the nights get darker, so please come and join the gang.

We've also had our first in-person meeting at Keyworth, which was surprisingly well attended, where James took us through what had been updated at the observatory, and what our plans still were. We plan to meet next in Gotham for Paul Money's talk, all being well, although we are still exploring a new longer term venue.

So fingers crossed, we can get back to some sort of business as usual. Hope to see you all at the next meeting!

Julian

NAS chair

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

Sky Notes

September 2021



Compiled by Roy Gretton

All times given below are in British Summer Time

The Autumnal Equinox, when the Sun on its southward journey crosses the celestial equator, occurs on the evening of September 22nd.

PHASES OF THE MOON

<i>Phase</i>	<i>Date</i>
New Moon	September 7 th
First Quarter	September 13 th
Full Moon	September 20 th
Last Quarter	September 29 th

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

At midnight in mid-September, the familiar asterism of the Plough lies ‘the right way up’ near the northern horizon. Nearly overhead is the ‘W’ of Cassiopeia, while on opposite sides of the pole lie two of the northern hemisphere’s brightest stars, the yellowish Capella (in the north-east) and the blue-white Vega (high in the west). The brilliant Arcturus has now disappeared below the northwestern horizon. Meanwhile almost due south lies **Fomalhaut**, a first-magnitude star in Piscis Austrinus. Lying almost 30 degrees south of the celestial equator, it is out of range from Britain for much of the year, but autumn is a good time to hunt it down, some distance to the south-east of Jupiter. Fomalhaut is by far the brightest star in that region of the sky, and has a planet named Dagon which made history by being the first exo-planet to be imaged directly (by the HST).



**Looking south
at
midnight (BST)
on
September 15th**

THE PLANETS

Mercury is unobservable this month.

Venus, brilliant at magnitude -4.1 but not necessarily easy to spot, continues to lurk low down in the southwest after sunset. Through a telescope it exhibits a gibbous phase.

Mars has now disappeared from our sky as it heads toward conjunction with the Sun in early October.

Jupiter, close to the border between Aquarius and Capricornus, was at opposition last month, and so now is an excellent time to observe it in the late evening. It happens to be edging southwards (by about a degree during September) but will still be about 23 degrees above the southern horizon when it culminates.

Saturn, magnitude +0.4, in Capricornus, will be due south at about 10pm in mid-September. It will be roughly 19 degrees south of the equator, and, like Jupiter, will be edging further south throughout the month.

Uranus, in the constellation of Aries, will be rising at 8 pm by the close of September. It is now 16 degrees north of the celestial equator, and shining at magnitude 5.8.

Neptune, a magnitude +7.9 object in the constellation of Aquarius, will be rising at approximately 8 pm as September begins.

METEORS

A lesser-known shower, the **Epsilon Perseids**, come to maximum activity this year under very favourable conditions, with a 2 day-old Moon, on September 9th. They are much less prolific than their August cousins, with five events per hour expected under ideal conditions.

Further Views of the Solar Eclipse of June 10th

Barrie Chacksfield captured these images, displayed in chronological order, of the partial eclipse of the Sun that took place on June 10th. Much of England was plagued with cloud on that date, so Barrie considers himself lucky to have obtained these results.



DIARY DATES 2021

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 Quiz Nights, etc, when NAS members provide the activities. Normally we have a **Library** and a **Helpdesk** open at each meeting.*

Date	Topic	Speaker
September 2 nd	The Vikings at Barsoom Part 2: The Search for Life	Paul Money FRAS, FBIS
October 7 th	Fiat Lux 3 <i>The Large Synoptic Survey Telescope</i>	Dr Steve Barrett University of Liverpool
November 4 th	Annual General Meeting with a Wine and Cheese Social	
December 2 nd	The NAS Christmas Lecture <i>to be confirmed</i>	

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 September 16th (see below)

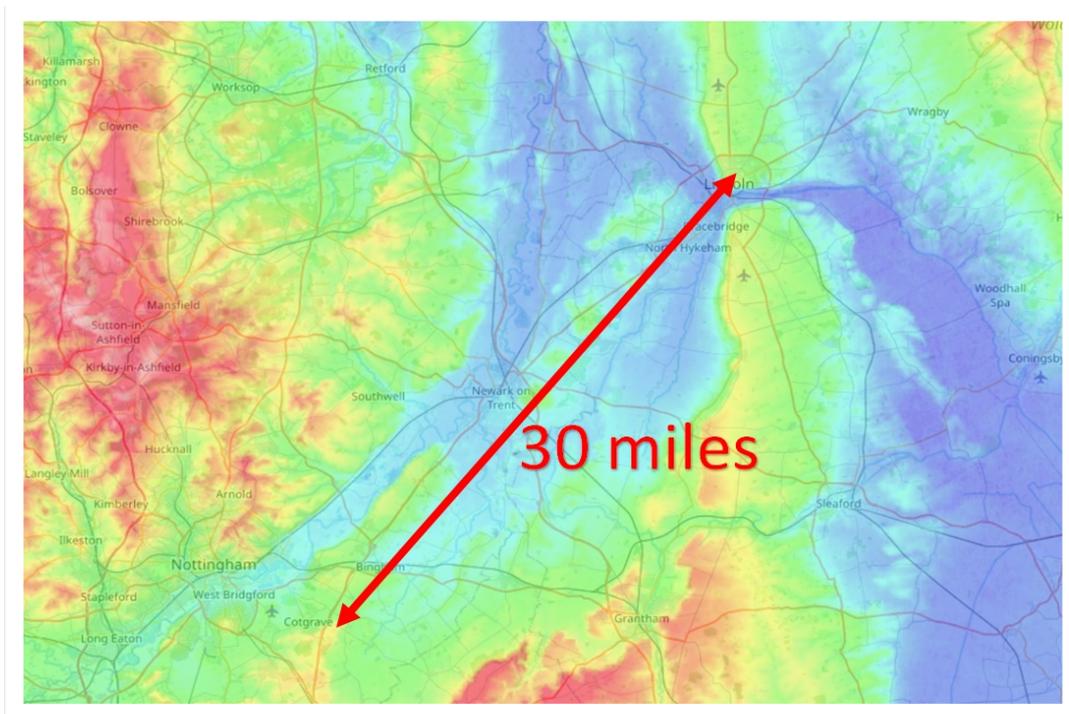
Social and Practical Astronomy, Plumtree, July and August, 2021

Our **July** Plumtree meeting was online and called “NAS Observatory Live” and hosted by Richard Severn, with Julian, myself and Fred live at the observatory.

The purpose of the event was to celebrate the hard work which former members have put into acquiring the site and building the observatory, and also to bring members up to date which the recent changes which we have begun to implement there.

Mike Provost gave a fascinating summary of how the observatory was built and shared lots of photographs of the construction phased which are in the NAS archives thanks to Brian Griffin.

Richard then gave an overview of the observatory site and the distant horizon pointing out landmarks and features, including Lincoln Cathedral (highlighted by the red oval in the photograph to the right, taken by Richard). The graphic below shows the straight line of sight from the Observatory to Lincoln Cathedral over Newark.



Richard then talked about the ideas we have to modernise the observatory and to make it safer for people to visit and use, as well as ideas for the future.

Richard then handed over to Julian at the Observatory who gave an internal tour and I talked briefly about the new telescope and mount. Despite it still being daytime, we were fortunate to have a crescent Moon to observe live through the telescope. We also managed to have a look at Venus which was shimmering violently in the atmospheric haze as it sat just 10 degrees above the horizon.

There were a number of questions and I think the evening was enjoyed by all. If you missed the broadcast or want to watch it again it is on the Society's YouTube channel:

<https://www.youtube.com/watch?v=wfUIG6ae7kw>

The August 2021 Plumtree meeting was the first indoor face-to-face gathering the Society had held since March 2020 when the COVID-19 pandemic brought an end to social interactions.

This was an ideal opportunity to talk to members face to face about the work we've undertaken at the Observatory. I asked the committee for any photographs they had taken at the Observatory since March 2020 and I put these together to make a timeline of events. This was an interactive session and it was good to have face to face questions and answers and debate. The picture here taken by Leigh during the meeting.

Chris made a gorgeous cake which didn't last very long, and attendees commented on how nice it was to meet up again face to face.



The next Plumtree face-to-face meeting will be held on Thursday, 16th September 2021, subject yet to be decided.

James Dawson

helpdesk@nottinghamastro.org.uk

Summer BBQ, Saturday 7th August 2021

On the 6th August 2016 we held the summer BBQ at the observatory and combined that event with the 70th Birthday celebrations of the Nottingham Astronomical Society. The BBQ this year was held on 7th August, and would have also marked the 75th Birthday of the Society. The write up of the BBQ in 2016 and the birthday celebrations can be found in the September 2016 issue of the NAS Journal which can be found [here](#).

We were pleased to see a very good turn out to the BBQ this year, with long-standing members of the Society and members and guests who were making their first visit to the observatory.

[Image above by Richard Severn of the 2021 BBQ]



The event was not only an opportunity to have our first social gathering since March 2020 when COVID-19 ended all meetings, it was also great to be able to show people the work we have undertaken at the observatory, particularly the new safety measures and the new telescope and mount. Despite the poor weather forecast, it remained dry the whole afternoon apart from a brisk rain shower which lasted about 5 minutes. The evening became too cloudy to do any observing, but that didn't spoil an otherwise lovely day.

Special thanks must go out to Chris Sneddon for her hard work in planning the BBQ and in making salads and cakes for the event, and also to Julian and his family. And thanks to everyone who helped on gate duty welcoming people, and to everyone who came along. A really successful event and it was great to see everyone again.

[Images above right, and right by Julian Onions]



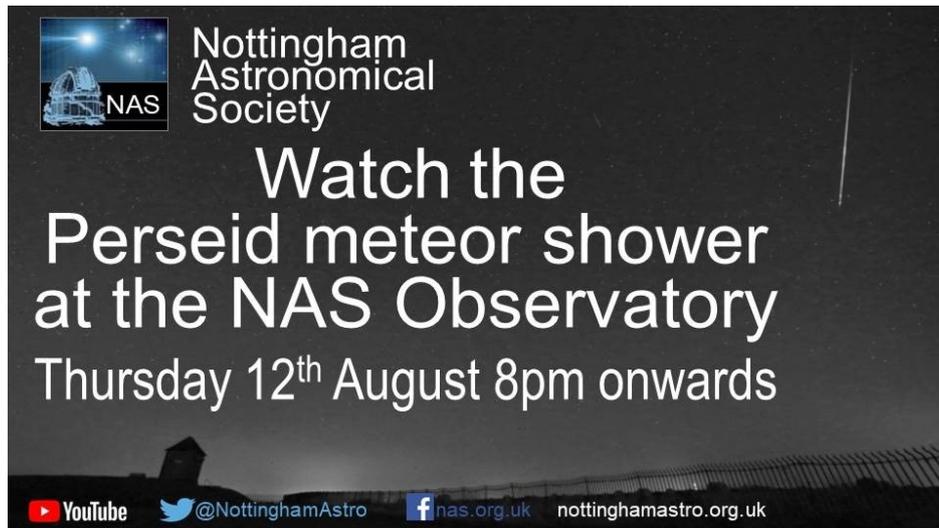
James Dawson

NAS Helpdesk

helpdesk@nottinghamastro.org.uk

The Perseid Meteor Watch of August 12th-13th

Members of the NAS were invited to the observatory site for the evening of the Perseid maximum, this year's conditions being near-ideal, with a four day-old Moon disappearing before midnight. On this occasion the weather was on our side. There had been a lot of high cloud in the late afternoon and early evening, but most of this had cleared by 11pm and thereafter the sky was fairly clear. As well as observing meteors, members took the opportunity to use their telescopes and imaging equipment to observe and capture a variety of celestial objects.



This image of a Perseid meteor was taken by **Jack Worsnop**. The camera settings were F2.8, ISO 1000, with a 4 sec exposure. The image was heavily cropped, with some basic processing in Lightroom and Photoshop.



Dane Atkin obtained this image over a period of an hour with a Canon GX7 compact camera, including one particularly bright Perseid:



It was terrific to see so many members back at our first opening of the observatory, with such a family atmosphere.

The new society C14 telescope was kept busy with Venus, the Moon, Saturn and Jupiter all making an appearance during the evening. But the Great Globular Cluster in Hercules, M13, stole the show. What a special sight to look at, thanks to Barrie for bringing his eyepieces for us to use on the C14 to view it.

Mark Fairfax writes:

I had a superbly enjoyable and memorable evening at the Nottingham Astronomical Society Cotgrave Observatory viewing the Perseids (at their maximum) amongst other things on Thursday evening.

Lots of members were there and saw some spectacular meteors, although not as many as we'd like and I seemed to be looking the wrong way a lot of the time, to just hear the oh's and ah's. I enjoyed a couple of views in the very popular society C14 telescope (queues at times), seeing the Moon and the Great Globular Cluster M13 in Hercules.

My eVscope in its backpack even made its first foray outside my back garden to the observatory. In between some questions, showing views on my iPhone & iPad and trying to catch some Perseid meteors I even managed a few very pleasing captures with my eVscope. (It was such a joy to use it at a truly dark site with pretty much 360° views around to the horizon). Below is a selection of images from the eVscope.

M51 - Whirlpool Galaxy

Actually refers to 2 separate galaxies - one primary galaxy and one irregular, which will eventually merge into one. 37 million light years from Earth.

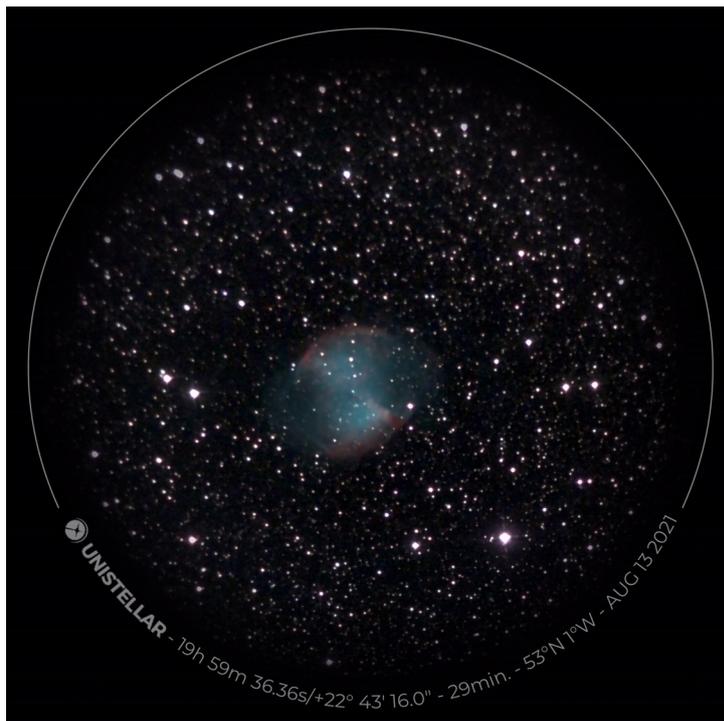
A spiral galaxy 35% the size of our own Milky Way galaxy



M27 - Dumbbell Nebula

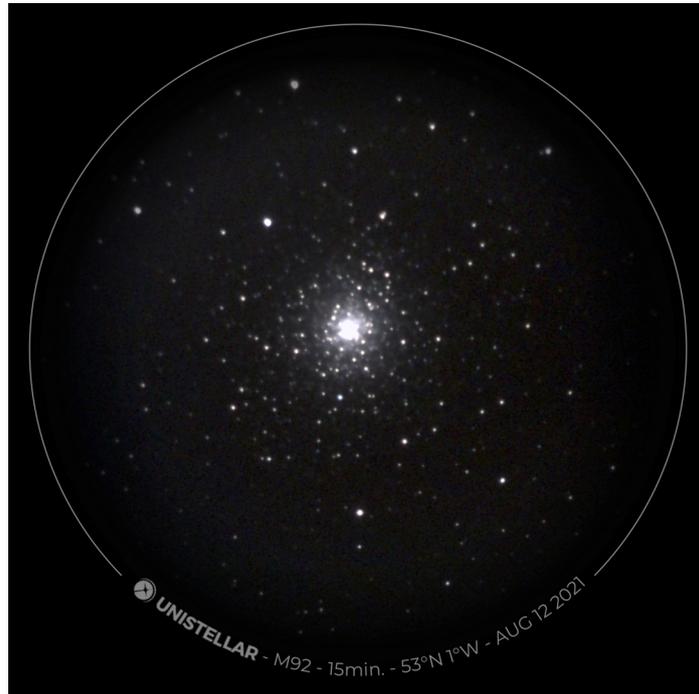
3,000 to 4,000 years old, 1250 light years from Earth

First planetary nebula to be discovered



M92 - Globular Cluster

One of the biggest and brightest clusters in the Northern Hemisphere with a total mass of around 300,000 solar masses. 26,700 light years from Earth.
Around 14 billion years old, having formed shortly after the Big Bang



M57 - Ring Nebula

Around 6,000 to 8,000 years old
2,290 light years from Earth
Expands at a rate of 30km/s



The Future of Amateur Astronomy?

We have recently seen the Unistellar EVscope, demonstrated by Mike Provost. A few years ago, I came across the Stellina from Vaonis – another French firm. This is a fully automated 80cm refractor with digital camera, camera rotator and a GPS controlled alt-azimuth mount. The unit is just about portable, weighing in at 11kg. and comes with an optional carry sack and spare battery packs. At £3600, it is not cheap!

Meet Stellina,
your new companion.



This was launched a few years ago at CES in Los Angeles and reviewed whilst using it in Los Vegas. The purpose was to illustrate that it would work quite effectively, in city areas, in spite of the light pollution.



When one considers the total cost of, say, a Takahashi FSQ80 and all its ancillary extras of CMOS camera, filter wheel and camera rotator, plus auto focuser, equatorial mount and tripod, then perhaps this price is not excessive. The camera sensor is small, a 1/1.8" Sony CMOS one, with 6.8MP, but Vaonis were considering being able to upgrade it to a larger one.

Then, last year they launched a new product – Vespera – via the now standard Kickstarter method on the web, including Facebook. With its compact, portable size and reasonable

price, I decided to take the plunge. I would pay about 2/3 of the eventual price of £1300. Vespera is a 50mm refractor and is a quadruplet apochromat – a better optical design than Stellina.



Vespera has auto initialisation, auto alignment, auto tracking and auto focussing, weighing in at 5kg and 40x20x9cm in size. It has a focal length of 200mm, making it f4 and has a Sony IMX462, 2MP sensor. It has won the CES 2021 Best of Innovation Award. Both Stellina and Vespera can be controlled by an app – Stellinapp – on your smartphone, or tablet and this allows you to view and store your photos.

Clearly, the camera sensor will be the limiting factor in its performance as a small refractor with a small focal length, but the ease of use and easy portability and set-up do compensate for this. I am often in the Lake District, staying in a climbing hut – The George Starkey Hut – in Patterdale. Seeing can be very good, and light pollution is low, although the hills – Helvellyn is to the west – do restrict the views. I hope to receive my Vespera at the end of this year and test it out in Patterdale. Once I have some results, I will give NAS a presentation.



As a member of The Alpine Club and AAC, I am usually mountaineering in the Alps in summer (though not recently due to Covid) and intend to take it up with me to test out at

altitude in the Swiss and Austrian alpine huts at around 2000-3000m. When skies are clear at this height, one really sees the Milky Way!

Richard Field

Advertisement

For Sale

Celestron NexStar 8SE telescope

Complete with tripod, two finder scopes, dew shield and solar filter.

£650 ono

Contact Roger Blackburn in Bottesford 07960911804

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:

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 2021

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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