
Journal

of the

Nottingham Astronomical Society

September 2020

Comet Neowise Special

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Thursday, September 3rd

8pm: **ONLINE**

This evening we welcome

Dr Chris Arridge

Reader, University of Lancaster



who will be speaking on

The Plumes of Enceladus

Our September “Gotham” meeting will be broadcast live online

The live stream meeting will start at 8pm. The stream can be accessed from 7:30pm onwards. Members will be emailed a link an hour before the meeting is due to begin.

Alternatively the live stream can be viewed directly on our website at <https://nottinghamastro.org.uk/> from 7:30pm.

If you are a registered user of YouTube you will be able to ask questions during the live broadcast via the YouTube live chat, alternatively send your questions live via our social media:

Facebook <https://www.facebook.com/nas.org.uk>

Twitter [www.twitter.com/nottinghamastro](https://twitter.com/nottinghamastro)

email: membership@nottinghamastro.org.uk

We would especially welcome live interaction during the event to keep the meeting as interactive as possible for members, and make it like our normal face-to-face gatherings. Please encourage your family and friends to watch by forwarding them the link.

A Message from the Chairman, September 2020

Hello readers!

I said in my last bit that come September we might know more about the pandemic and how to plan - well here we are and not much the wiser! The people at Gotham are still working hard to plan precautions to open the hall but we may not be able to host more than 30 members. We also aren't sure how many of our members might feel they want to attend an indoor meeting at the moment anyway. We are, many of us, in the vulnerable group, so I wouldn't blame anyone for being extra cautious. The committee would welcome feedback from members on how they feel about this issue, just email the secretary please.

With all the uncertainty in mind we have decided to continue our meetings online for the rest of the year. We have 'The Plumes of Enceladus' for September, another great talk by Steve Barrett on the Hubble for October, Richard has managed to get Damian Peach for November (well done!) and Paul Money rounds us off in December with the 'Vikings at Barsoom' (look up your Rice Burroughs!). Meanwhile James will continue with our mid month meetings online, but he would dearly like some contributions from members – please! We have decided to move our AGM to January in the hope of avoiding the daunting task of holding it online. Our AGMs can be held up to 15months apart. Thanks as always go to Richard, Leigh and James for their tireless efforts to keep our on-line programme going - well done to you all!

Rob, our Curator of Instruments has been working on the dome rotation and is checking out the big scope for when the darker nights return. Eyepiece sterilisation could be a problem though, so Rob is looking into camera output onto a live view screen. The scope hasn't seen any action since last year, with the worst autumn/winter cloud and rain for many years followed by lockdown just as it started to improve!

Here's a picture I took on the big (24-inch) telescope last year, straight off the camera:



Nikon D700, 24-inch f4 Newtonian, 1/80th sec, ISO400



James, Richard and Fred have been keeping the grass trimmed, it all looks beautiful in the summer sun. Leigh has finished the dome and annex lighting mods and James has done a magnificent job preparing a charger control panel to tidy up the wiring for the batteries and solar panel chargers.
Many thanks to you all.

All the best, keep safe,
John



Nottingham Astronomical Society

Visit www.nottinghamastro.org.uk to watch recordings of our online meetings during the lockdown, many featuring speakers from the BAA. Subscribe to our YouTube channel to watch our live meetings in 2020

<p>2nd April Galaxies: One Gigayear at a time Dr Julian Onions</p> <p>7th May Variable Star Astronomy & Cataclysmic Variables Dr Jeremy Shears</p> <p>4th June Wonders of the Southern Sky Professor Ian Morison</p> <p>2nd July Mars in 2020 Dr Richard McKim</p> <p>6th August Centenary of The Great Debate Dr Nick Hewitt</p>	<p>16th April Venus J Dawson, G Davies, R Severn, J Onions</p> <p>21st May Backyard Astronomy NAS members</p> <p>18th June Foundations of Astrophotography Dr James Dawson</p> <p>16th July A Life Time of Astronomical Observations Alan Heath</p> <p>20th August Deep Sky Astronomy Callum Potter</p>
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 nas.org.uk

 [@NottinghamAstro](https://twitter.com/NottinghamAstro)

 [YouTube](https://www.youtube.com/NottinghamAstro)

www.nottinghamastro.org.uk

Sky Notes

September 2020

Compiled by Roy Gretton

All times given below are in British Summer Time



The **southward equinox** (Autumnal Equinox in the northern hemisphere) occurs this year in the afternoon of September 22nd.

PHASES OF THE MOON

<i>Phase</i>	<i>Date</i>
Full Moon	September 2 nd
Last Quarter	September 10 th
New Moon	September 17 th
First Quarter	September 24 th

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

THE PLANETS

Mercury is an evening object throughout September, but almost impossible to observe from our latitude.

Venus continues to be a brilliant spectacle in the morning sky throughout September, rising in the constellation of Gemini four hours before the Sun as the month begins, and shining at magnitude -4.2 . It remains north of the celestial equator throughout this month.

Mars becomes more and more prominent as September progresses, with its magnitude brightening from -1.8 at the start of the month to -2.5 at the end. Its retrograde motion (toward the west) commences on September 9th and will continue until November 13th, always occurring within the boundaries of Pisces. On September 1st Mars will be rising at 9:45pm and culminating about 4am. At the end of the month it will be rising at 7:30pm and culminating at 2am, by which time excitement at the prospects of October's opposition will be growing in the amateur community around the world.



Looking
southeast
at
midnight
(BST)
on
September
28th

Jupiter will be prominent low in the south as the sky darkens in early September. It will fade slightly, from magnitude -2.6 at the start of the month to -2.4 by the end. The planet's equatorial diameter will remain greater than 40 arcseconds throughout. The four brightest (Galilean) satellites will be aligned to the east of the planet on the morning of September 3rd, and again on the morning of the 17th. A peep at Jupiter through a small telescope will be potentially rewarding.

If you can spot the brilliant Jupiter, it will be easy to find **Saturn**, a few degrees to the east (left), shining at a dimmer magnitude 0.3. At the beginning of the month the major axis of the rings will be more than 40 arcseconds across.



**Looking south
at 9:30pm on
September 9th**

Uranus (magnitude 5.7) lies to the east of Mars, in Aries. In the middle of September it will be rising about 8:30pm, and remaining above the horizon for the rest of the night.

Neptune (magnitude 7.8) will be at opposition in the constellation of Aquarius on September 11th.

METEORS

The Epsilon-Perseids are a minor shower that peaks, potentially with a handful of events per hour, on September 9th. A waning gibbous Moon will interfere.

DIARY DATES 2020

Monthly Meetings of the Nottingham Astronomical Society

**There will be no meetings at
Gotham or Plumtree until further notice**

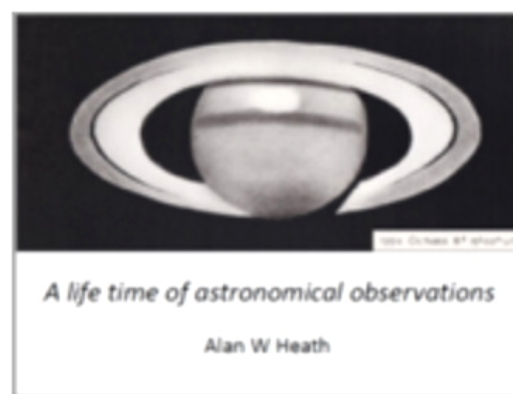
***Members of the Society will receive further updates
each month from the Chairman***

<u>Date</u>	<u>Topic</u>	<u>Speaker</u>
ALL ONLINE September 3 rd	The Plumes of Enceladus	Dr Chris Arridge Reader, University of Lancaster
October 1 st	The Legacy of the Hubble Space Telescope	Dr Steve Barrett Senior Research Fellow, University of Liverpool
November 5 th	NAS Prestigious Lecture	Damian Peach
December 3 rd	The Vikings at Barsoom - Part 1 Orbital Operations	Paul Money

Social and Practical Astronomy, Plumtree, July and August 2020

Despite ongoing social distancing rules during the COVID-19 pandemic, we've continued to run our Plumtree meetings online. I'm unreservedly grateful to Richard and Leigh for their help with this.

For the **July** Plumtree meeting we got permission from Dr Dan Brown from Nottingham Trent University to play the talk Alan Heath gave there in 2019; the monthly lecture series Dan hosts at the University is supported by the Institute of Physics and we are most grateful to Dan in allowing us to use this recording.



Alan is our longest standing member and first joined Nottingham Astronomical Society in 1952. A very brief write up of the talk from 2019 is in the [June 2019](#) edition of the NAS Journal. At the end of the recent meeting, we managed to get Alan on the telephone and over Zoom and he was able to answer questions put to him by listeners through the chat function of the Society's YouTube channel.

You can watch the whole talk and the subsequent question and answers [here](#).

After the questions and answers, Richard re-played the video footage of Julian making a comet in honour of Comet NEOWISE (Comet C/2020 F3 NEOWISE) which had been putting on a spectacular show for us over the summer. Richard also pulled together various members' images of Comet NEOWISE and played these as a slide show. We really do have some talented and dedicated astrophotographers.

For our **August** Plumtree meeting we were fortunate to have an excellent external speaker talk to us. Callum Potter is the British Astronomical Association's (BAA) [Deep Sky Section](#) Director, and is also immediate past-president of the BAA and current vice-president. Callum lives in Gloucestershire and his passion is for those faint fuzzy objects outside of our own solar system.



Callum's talk was pitched for a mixed audience and he gave an excellent overview of the techniques employed, equipment used and some of the celestial targets for the deep sky observer.

There were countless useful and interesting components within the talk, but for me I was fascinated to learn about the origins of the term "Deep Sky". The term appears to have first appeared in print in the early 1940s in the *Sky & Telescope* magazine. Another topic which Callum talked about was that of dark adaptation. With my background in biological sciences it was a good prompt to go away and read up on the subject and there is lots of information freely available on the internet on the topic, including a useful [Wikipedia](#) page.

Callum's talk was very inspirational and reminded us all of the range of astronomical targets out there to both observe and image, and I hope his talk will encourage readers to get out there and look up on moonless nights and hunt down some of the weird and wonderful entities our universe has on offer.

The BAA website allows BAA members to post images, sketches and observation notes to their [Member Page](#) and these can be studied by non-members; there are hundreds of amateur observations and images there and these can be sorted by category, well worth a look if you want to see what other amateurs can achieve.

We had a good question and answer session after the talk and I am really grateful to Callum both for giving up his time and for such a fabulous and inspiring talk. The talk can be watched again on the Society YouTube channel [here](#).

For the **September** Plumtree meeting, I hope to find the time to record some video footage of how to set up equipment and how to capture data when imaging the planets, as well as how to undertake basic processing of this data. There are countless resources online if you want to read about this topic, including this excellent page by [Jerry Lodriguss](#). If the weather doesn't play ball, or I don't find the time, I will think of another topic to cover.

If there are topics you want our Plumtree meetings to cover, let me know, and if you have something you'd be happy to share with others using the Plumtree meetings I'd love to hear from you.

James Dawson, NAS Helpdesk & Plumtree Meetings
helpdesk@nottinghamastro.org.uk

Comet Neowise

Comet C/2020 F3 (Neowise) arrived unexpectedly in our early summer skies, and turned out to be one of the most exciting astronomical events of the year so far. Its arrival was unanticipated in the sense that the comet wasn't discovered until March 27th, little more than three months before perihelion, and it turned out to be arguably the brightest comet since Hale-Bopp, back in 1997.

There was once a time when most comets were discovered by amateur observers, but those days are very much in the past, as a variety of automatic sky-scanning systems are in constant use around the world, particularly those searching for near-earth asteroids, and they are likely to spot an approaching comet well before amateur telescopes pick it up.

Neowise stands for the *Near Earth Object Wide-field Infrared Survey Explorer* space telescope.

The comet's official name is designated by the International Astronomical Union according to their naming convention.

C indicates it is a non-periodic comet, as it takes longer than 200 years to orbit the Sun. **2020** – the year it was discovered.

Each month is designated two letters of the alphabet, e.g. 1st - 15th Jan: **A**, 16th - 31st Jan:

B. This Comet was discovered in the second half of March so is designated **F**.

3 indicates that it was discovered in the third month of the year: March in this case.

Finally a name to indicate the discoverer (or discovery system) of the comet: **Neowise** in this case. Hence **Comet C/2020 F3 (Neowise)**

Members of the NAS observed and imaged the comet, and the following pages show a selection of their images, taken between the 10th and 23rd of July.

1. Gareth Blake



A wide field shot taken on July 10th from Keyworth looking over Nottingham. The settings were a 5 second exposure at f/5.6, ISO1600 with a Canon 700D and 18 - 55 mm lens

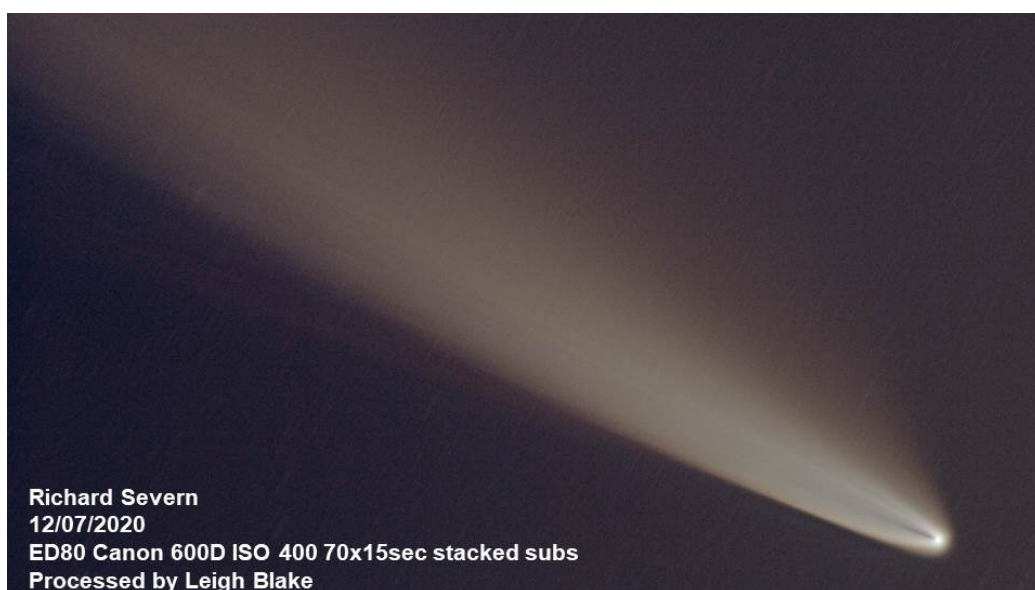
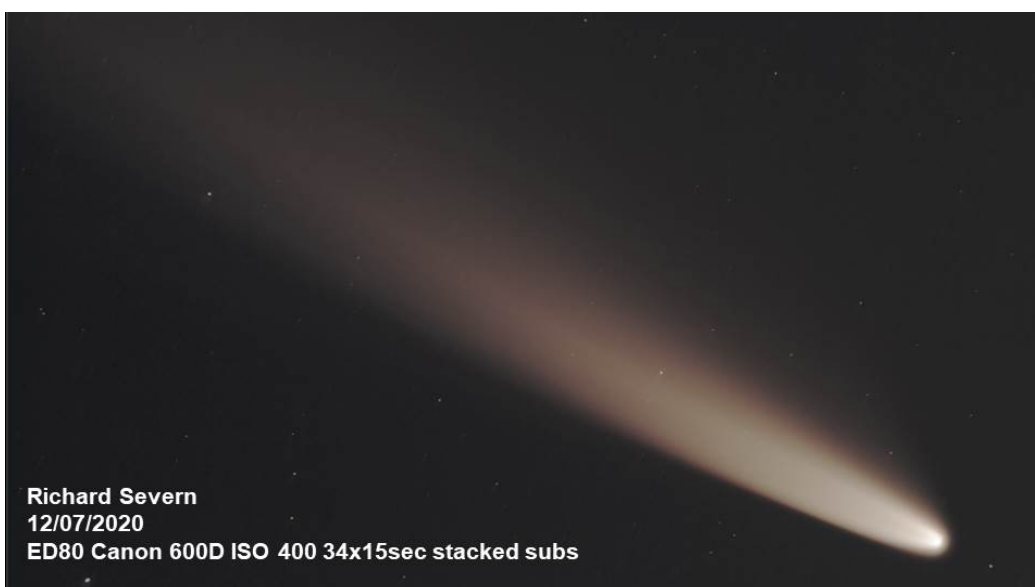


Stacked image taken on July 12th from the prime focus of a Skywatcher ED80 mounted on an EQ3, with a Canon 700D at ISO800. 100 x 15 second exposures stacked in Deepsky Stacker processed in Photoshop.

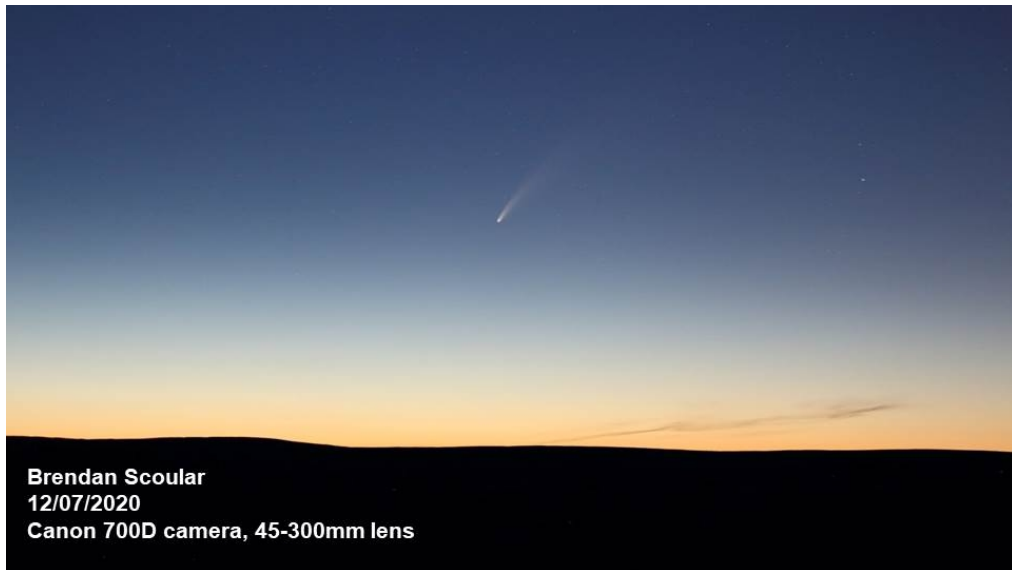
2. **Barrie Chacksfield**



3. Richard Severn



4. Brendan Scoular



5. James Dawson



6. John Hurst

(See separate report on “Clouds and Comets”, below)

7. Rob Dawes



8. David Buxton



16th July 2020, 1 am, Pentax K50 camera, 10 second exposure at ISO1600

9. Roy Gretton



12:44am, 23rd July 2020 Canon 450D, 15 sec exposure at ISO1600, f/5.6

Clouds and Comets

by **John Hurst**

This year has been quite good for Noctilucent Clouds. These mysterious clouds appear from May to July, when the sun is never far below the northern horizon. They are so high (about 50 miles) that they still catch the sun and shine with a beautiful electric blue. The name means 'Night Shining' and you can see them any time after sunset until dawn, in the north west to north eastern sky. They are quite illusive so you have to keep checking!

I caught my first glimpse this year in the early hours of **July 11th** due North, a magnificent display, one of the most beautiful and intriguing I've seen.





I tried to get Comet Neowise in the same frame and finally managed it in the picture below. You can just see the comet near the leaves of the tree.



The next morning, **July 12th**, I went comet hunting. To get a steady picture I perched my tripod on the bedroom window ledge with one leg outside on the roof, the perfect vantage point! (*see above*)

Comet C/2020 F3 (Neowise)



Memories of Spring 2020

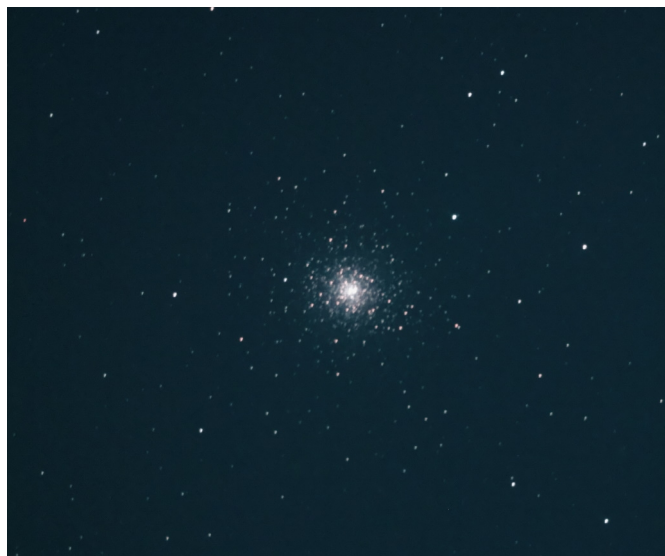
by **Marcus Stone**

During last spring when we had some excellent clear nights I was able to capture some images taken through my 300mm reflector.

The **Owl Nebula** located in Ursa Major rides high in the spring sky. I decided to try and locate it visually and managed to see it, using a UHC filter. The Owl Nebula is some 2600 light years away, 9th magnitude with a 14th magnitude central star. On this particular night, 19th April, the seeing was excellent. I captured this image, a stack of four 5 minute exposures at ISO800, using a light pollution filter.



The globular cluster **M92** lies in the “shadow” of M13, also in Hercules, but it is a brilliant cluster in its own right, visually and photographically.



I have always wanted to capture **Venus** as close as possible to conjunction. This shot taken at 16.36 pm on 27th May is the closest so far. Great care must be taken as it is very close to the Sun at this stage. This shows Venus just 8 days before conjunction, when it presents its largest disc size of some 55" diameter.



Finally, **noctilucent clouds** captured after an observing session on the morning of the 31st May at 2.51 am. The DSLR camera was hand held; exposure of 0.5 sec at ISO1600

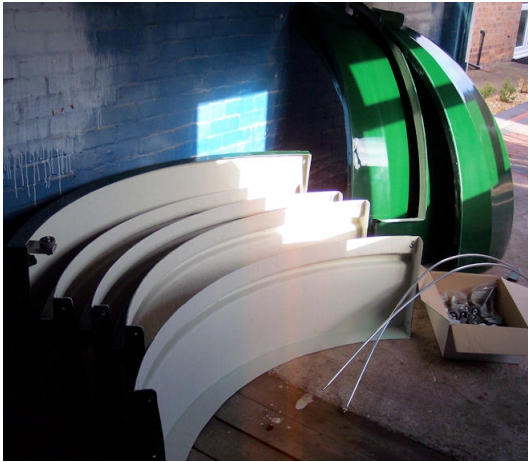


Advertisements

FOR SALE

Pulsar 2.1-metre Observatory Dome and Track in Racing Green

Made by the leading UK manufacturer of GRP observatory domes.
The dome and the track are each fabricated in four segments that bolt together.
The track is intended to be fixed to a flat roof (and could be used for converting a roll-off roof observatory into a domed one).
The complete kit was purchased in 2008.



The dome and track sections as delivered from Pulsar



The track fitted to a flat-roofed shed



The dome mounted on the track

The original price of the dome and track was **£2000**

Suggested price **£500**
but any offer will be considered

Contact **Roy Gretton** on 07483868162 or journal@nottinghamastro.org.uk

FOR SALE

Skywatcher Heritage-114 Virtuoso telescope



Little used and in new condition, with eyepieces.

Current price new £182

Reasonable offers invited

email : grahammarch2@btinternet.com

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

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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ORDINARY COMMITTEE MEMBER:

David Buxton

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

Meetings

Under normal circumstances 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 2020

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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