
Journal

of the

Nottingham Astronomical Society

April 2021

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Thursday, April 1st

8pm: ONLINE

Tonight we welcome

Dave Eagle



who will be speaking on

**Astronomical Adventures
in Tenerife**

as an amateur astronomer imaging the sky,
following in the footsteps of Charles Piazzi Smyth

Current Arrangements for our monthly “Gotham” meetings

These meetings, held on the first Thursday of each month, are intended for members of the Society only. “Plumtree” meetings – those held on the third Thursday of each month – will continue to be freely accessible to the public via YouTube.

Until further notice, our main meetings will be held on YouTube and will be for **members only**. Members will be emailed a link to the live stream on YouTube about 20 minutes before the meeting commences at 8pm. You will not be able to search for the meeting in YouTube, access is via the link provided in the email only.

For non-members wishing to watch our meetings, please email membership@nottinghamastro.org.uk before the meeting and we will send you a link to your first two meetings before requesting you join the society to join future online meetings.

Chairman's Message – April 2021

Dear Members,

Welcome to this month's Journal. Spring seems to have sprung at least for the moment, so I hope you are all well and taking advantage of the warmer weather to keep yourselves fit and healthy. With the uptake of vaccinations and the prospect of lock down slowing coming to an end, we can hope to meet up again at some point. I'm hoping for a barbecue get together in August, but I don't want to jinx it!

We have a new nova in the sky, of which I hope there are pictures included here - thanks to Mike!

We also have Perseverance exploring on Mars, and it's soon-to-be-released helicopter which should be interesting. Meanwhile Orion is still with us but moving away, so keep an eye on Betelgeuse just in case!

I hope you enjoyed a great evening of talks on observatories around the world by members, what a great fount of knowledge we have between us.

Our next speaker is Dave Eagle who also runs the Virtual Astronomy club over zoom, which meets every couple of weeks - everyone is welcome to drop in for free for a chat and some interesting talks. <https://www.star-gazing.co.uk/WebPage/virtual-astro-club/>

Stay safe everyone!

Best wishes

Julian

NAS Chair

Planetary Memories of the First Lockdown

Late March and the whole of April last year were unusual times for British amateur astronomers, for more reasons than one. Apart from the obvious reason, we were also blessed with unusually clear skies for a period of weeks. In fact April 2020 was the sunniest such month on record in England. This coincided with a particularly favourable apparition of the planet Venus. Evening apparitions of the inferior planets are usually favourable in the spring because at that season, due to the inclination of Earth's axis relative to the orbital plane and our direction of travel around the Sun, the ecliptic makes a steep angle with the horizon in the evening sky.

Venus was at its greatest eastern elongation on March 24th, and on clear evenings I enjoyed the challenge of testing how early I could spot it in the (bright) sky. For a number of evenings it was easy to spot Venus while the Sun was still above the horizon (if you knew where to look), such was the planet's brightness, shining at magnitude -4.3.

I made a note in my diary on March 27th that I was able to see Venus with the naked eye at 5:54pm, well before sunset.

A selection of observations and images of the 2020 evening apparition of Venus by NAS members can be found in issues of this Journal from last May and June.

This year's greatest eastern elongation of Venus will occur near the end of October, so it will be a much less spectacular affair, and many members of the public probably won't even notice it.

Roy Gretton

Nottingham Astronomical Society 2021 Membership

Membership subscriptions for 2021 are now due for renewal. All current members should have received their renewal forms by email detailing your membership rate.

Individual £30, Partnership £45, Concessions £5.

To renew your subscription please either:

1) If you have an online banking facility then payment can be made direct into the Society's bank as follows: Bank: NatWest, Sort Code: 56-00-61, Account: 44992254

Please enter your surname and membership ID as the reference. Please confirm by email to treasurer@nottinghamastro.org.uk that you have made an online bank transfer.

Some banks require you to enter the name of the receiving bank account as an anti-fraud measure.

Our account name is 'Nottingham Astronomical Society', however character limits may only allow you to type in 'Nottingham Astronomical Societ'

2) Paying by cheque

Please make cheques payable to 'Nottingham Astronomical Society' and send to:

Nottingham Astronomical Society, Dr Mike Provost, 85 Balmoral Road,
Bramcote Hills, Nottingham, NG9 3FT

3) If you are unable to pay by Bank Transfer or via Cheque, we will accept cash payment to the above address but this is entirely at your own risk and we do not recommend sending cash by post.

To all those that have joined already, a huge thanks for your continued support for the society, especially during this period we have been unable to meet face to face.

Richard Severn

Membership Secretary

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

April 2021



Compiled by Roy Gretton

All times given below are in British Summer Time

PHASES OF THE MOON

<i>Phase</i>	<i>Date</i>
Last Quarter	April 4 th
New Moon	April 12 th
First Quarter	April 20 th
Full Moon	April 27 th

This month the Moon is closest to Earth on the 27th, and furthest on the 14th.

April's Full Moon should be the largest of the year, as it occurs on the same day as perigee. No doubt someone will call it a 'supermoon'. To get the best impression of its size, try to observe it as it rises, as the Moon always seems to be larger when close to the horizon.

THE PLANETS

Mercury is unobservable this month, as it passes through superior conjunction on the 19th. However, next month will provide our best opportunity of the year for observing this planet in the evening sky.

Venus slowly emerges into the evening sky this month, after passing through superior conjunction on March 26th. It will however remain virtually unobservable as it will be no more than nine degrees from the Sun by the close of April. Once it does appear, Venus will be lurking low in the evening sky for the remainder of 2021.

Mars reaches its most northerly declination this month as it moves from Taurus into Gemini. Its angular diameter will decrease to less than five arcseconds, and its brightness will fade to magnitude +1.5.

In mid-April **Jupiter** will be rising an hour and a half before the Sun, and shining at magnitude -2.1. It will close the month less than 13 degrees south of the celestial equator.

Saturn remains more than 17 degrees south of the celestial equator throughout April, as its magnitude brightens to +0.7. It will be rising more than two hours before the Sun in mid-month.

Uranus is unobservable this month.

Neptune is a morning object in the constellation of Aquarius, rising about an hour before the Sun by the end of April. For most practical purposes, it must be regarded as unobservable.

METEORS

The **Lyrids** reach their maximum activity on April 22nd, with a ten day-old Moon, so conditions will not be ideal until well after midnight.

NOVA Cas 2021

A ‘new’ star (essentially an old one that has suddenly brightened) was discovered in the constellation of Cassiopeia on March 18th. It is close to the open cluster M52, and at the time of writing has brightened to approximately magnitude 7 or 8, so should be visible through binoculars or a small telescope. Cassiopeia is not ideally for observation at this time of year, as it is dipping toward the northwestern horizon as the sky darkens after sunset. However it is circumpolar, so the nova can be seen in the northern sky at any time on a clear night.



**Looking
northwest at
9:30pm on
April 1st**

**x marks the
position of
Nova Cas
2021**

A Quick Snap of the Moon

I knew that I had a patch of white space to fill in this month's Journal, so I popped out at 9:30pm on Thursday evening to take a snap near the Moon's southwestern limb, showing, among others, the lunar craters Schickard, Phocylides and Schiller



Image taken by the Editor with a Canon 450D camera, using projection from a 10mm focal length eyepiece on a 300mm aperture Newtonian reflector

DIARY DATES 2021

Monthly Meetings of the Nottingham Astronomical Society

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

*We nevertheless continue to display our pre-arranged programme of speakers
in the hope that it may be possible to livestream these talks.*

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

Date	Topic	Speaker
April 1 st	Astronomical Adventures in Tenerife	Dave Eagle
May 6 th	Extremophiles <i>Why there must be life elsewhere in the Universe</i>	Dr Martin Braddock Mansfield & Sutton AS
June 3 rd	Harbingers of Doom? Comets	Prof Ian Morison Emeritus Gresham Professor of Astronomy
July 1 st	The JUICE Mission <i>Exploring Jupiter's icy moons</i>	Dr Chris Arridge Lancaster University
August 7 th <i>(Saturday)</i>	Annual Barbecue at the Observatory <i>(Members and their guests only)</i>	
September 2 nd	The Vikings at Barsoom Part 2: The Search for Life	Paul Money FRAS, FIBS
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>	

Social and Practical Astronomy, Plumtree, April 2021

Our **March 2021** online Plumtree meeting featured a number of short talks by members on “Great Observatories of the World”.

Richard talked about the King’s Observatory, known as Kew Observatory

Herbel gave a talk on the Greenwich Observatory

Mike talked about the Leviathan of Parsonstown (Lord Rosse’s telescope at Birr)

Roy picked Gran Telescopio Canarias on the island of La Palma in the Canaries

Sam spoke on the Palomar Observatory and the 200-inch Hale telescope

Barrie chose to talk about the Paris Observatory

Tony talked about a radio observatory, and picked the Arecibo Observatory

The talks were excellent and very informative. We are really grateful for those speakers who gave up their time to research and prepare talks. This was exactly the sort of evening which we all hoped Plumtree meetings would deliver – members delivering talks for other members. Really inspiring.



This talk, and all other talks in the ‘Plumtree’ series we have had online since the start of lockdown, are available to watch again on the Society YouTube channel:

<https://www.youtube.com/c/NottinghamAstronomicalSociety/videos>

The **April 2021** online Plumtree Meeting will be looking at aberrations, optical errors and the use of electronic calibration in observational astronomy and astrophotography. See you then.

James Dawson

helpdesk@nottinghamastro.org.uk

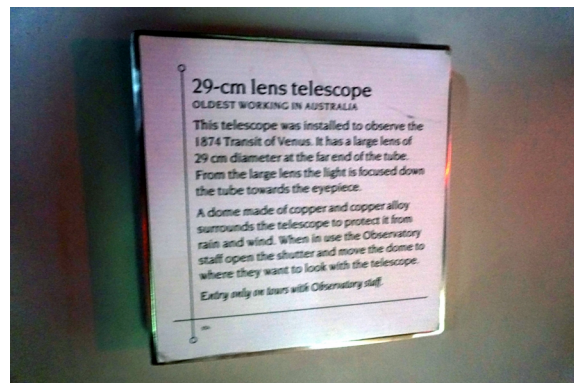
A Reflection on our Great Observatories Evening

by Herbel Pabla

This was my first talk for the NAS and I hope that everyone took something away from it. The other talks were very detailed and enlightening and makes me want to visit some of these sites. Probably first would be the Gran Telescopio Canarias (GTC) in the Canary Islands, once Covid 19 has passed.

The only observatory that I have attended in the UK was the Greenwich Royal Observatory which was during a weekend break to London with the family in 2012. The other one was in Sydney, Australia in 2014, which was more like a city museum with the original telescope on the top floor. During my holiday I managed to go to Uluru and was given a tour of the night sky by one of the astronomers doing tours there. Here I saw the Milky Way galaxy for the first time and various nebulae and star clusters as well as the Southern Cross. I was really impressed by what I saw and it rekindled my interest in astronomy.

At Greenwich, I was quite intrigued by John Harrison and the construction of clocks to help seafarers to navigate. This was a major problem for seafarers because they needed better navigation for trade and the discovering new lands. It would mean that sailors wouldn't starve or die before reaching their destination. By the 1760s Nevil Maskelyne's tables for finding longitude at sea by astronomical means and John Harrison's timekeepers made it possible to chart the world. The time ball on top of Flamsteed house gave the first accurate signal from 1833 and continues today. The Prime Meridian of the world was chosen to be GMT in 1884 following an international conference with 41 delegates from around the world. Flamsteed House was the first building constructed under the direction of Sir Christopher Wren and was the home of the Astronomer Royal, John Flamsteed. He made 50,000 observations of the moon and stars over a period of 40 years to give us a detailed star map. The 28-inch Great Equatorial Telescope was completed in 1893 and was used to provide double star measurements, and using Newton's laws of gravitation to determine the mass and orbits of these stars. It is still being used with recent additions of computer-aided guidance and a CCD camera to provide excellent views of the night sky.



A bright new nova in Cassiopeia: CzeV3217 becomes V1405 Cas

On 18th March, hours before some of us discussed some great observatories on James Dawson's regular Social and Practical Astronomy Zoom/YouTube call, a Japanese amateur astronomer called Yuji Nakamura discovered a bright new nova some 5,500 light years away in Cassiopeia. The Sky & Telescope website contains a comprehensive report of this event: see

<https://skyandtelescope.org/astronomy-news/observing-news/bright-nova-erupts-in-cassiopeia>

I took a picture of this nova (Latin for 'new star') on 21st March (reproduced below) with my eVscope from my back garden in Bramcote, which Leigh Blake kindly put up on the NAS website together with an image that he had produced some time before, annotated to show where this nova is in relation to the Bubble Nebula. The left-hand image is the raw eVscope picture, while the right-hand one highlights the nova and gives the right ascension and declination:

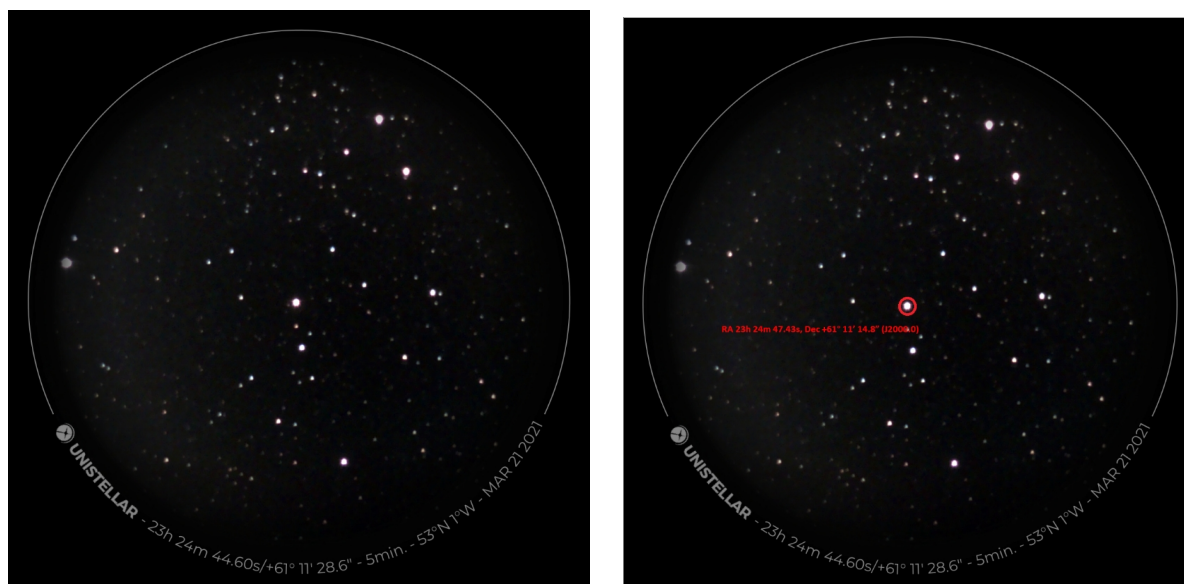


Photo taken with a Unistellar eVscope at Bramcote, Notts, UK: 5-minute exposure, 21st March 2021, 20:32 UTC/GMT

For a while, the NAS web page containing these pictures was one of the top hits returned by a Google search for 'V1405 Cas': fame at last! A picture that I took on the following night (22nd March) shows little, if any, change. That image was unfortunately compromised somewhat by a layer of high cloud, and attempts to take another picture just before this Journal went to press on 24th March were also terminated by cloudy conditions: such are the frustrations of astronomy... Still, I was really pleased to be able to manage this with my new(ish) high-tech instrument. Apparently V1405 Cas is visible in binoculars, but I haven't had any success yet with my attempts to use non-photographic means of seeing it, even with my 8" Sky-Watcher Dobsonian (which shows just how bad the light pollution is where I live).

Thanks.

Mike Provost: Treasurer, Nottingham Astronomical Society.

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**

CHAIRMAN:

Julian Onions

email: chairman@nottinghamastro.org.uk

VICE CHAIRMAN:

Richard Severn

email: vicechairman@nottinghamastro.org.uk

SECRETARY:

Chris Sneddon

email: secretary@nottinghamastro.org.uk

TREASURER:

Mike Provost

email: treasurer@nottinghamastro.org.uk

JOURNAL EDITOR:

Roy Gretton

email: journal@nottinghamastro.org.uk

MEMBERSHIP SECRETARY

Richard Severn

email: membership@nottinghamastro.org.uk

CURATOR OF INSTRUMENTS:

Rob Bush

email: curator@nottinghamastro.org.uk

WEBMASTER:

Leigh Blake

email: leigh@nottinghamastro.org.uk

DIRECTOR OF OBSERVING:

James Dawson

email: observatory@nottinghamastro.org.uk

ORDINARY COMMITTEE MEMBERS:

Andrew Green

Olwen Brant

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 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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