

June '23 Newsletter

Bath Astronomers

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Venus is reaching dichotomy (50% phase) and has pride of place in our evening skies. Darkness is lost but twilight still offers opportunities for stargazing.

What's below

- 'Fullerscopes' - Broadhurst Clarkson and Fuller
- Loan Box Article for Bath & Wiltshire Parent magazine
- The Sky this Month
- Summer Skies
- Useful Links

If you have an idea for an article for next month's Newsletter, please just get typing. Post-it Note or War and Peace. Then email hello@bathastronomers.org.uk by the closing date of 26th June to get it into the July edition.

Society News by Simon H

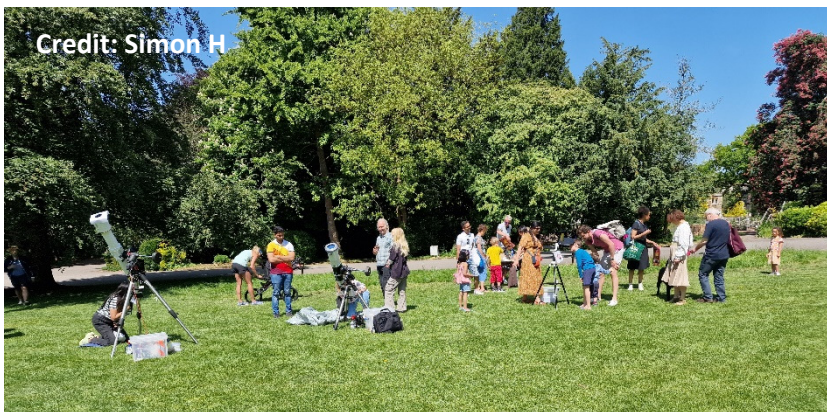


Credit: Simon H

We've been spending your money! Bath Astronomers' coffers have been lightened with a number of purchases to strengthen our solar observing capability. Up until now, we've relied on the generosity of members to bring along solar telescopes to summer outreach events. This worked but it meant we were reliant on that smashing good will and no-one else gained any expertise on using the telescopes.

So, this summer we have purchased two refractors. An f/5 6" Sky-watcher Startravel and an f/9.45 5" Bresser Messier AR-127L. We're purchasing a UV/IR filter and DayStar Quark Chromosphere eyepiece for the former and a 2" Herschel Wedge for the latter. These will complement our existing donated Coronado PST to give us a full diameter white light view of the Sun with capability to magnify, full diameter hydrogen alpha, and close-up hydrogen alpha. We're awaiting delivery of the wedge currently which is partly funded by a competition win at this year's spring Awesome Astronomy Astrocamp and the generosity of Tring Astronomy Centre.

The bonus of purchasing the two refractors is that we can use them for lunar and planetary observations too later in the year.



Credit: Simon H



Upcoming Events

Wednesday 31st May
BA Monthly Meeting
with Dr Hannah Wakeford
Herschel Museum
19:15 doors open

Wednesday 21st June
Summer Solstice
Herschel Museum
10:00 onwards (fee)

Saturday 24th June
Batheaston Fete
School Lane, BA1 7EP
12:00 until 16:00

Wednesday 28th June
BA Monthly Meeting
with Mary McIntyre
Herschel Museum
19:15 doors open

Sunday 13th August
Pop-up Solar Sunday
York Street, Bath
10 - 4pm family day with Solargazing and activities in conjunction with Toppings book shop

Wednesday 27th September
BA Monthly Meeting
with Dr Becky Smethurst
Bath Royal Literary and Scientific Institution
19:15 doors open

Warning this edition contains a moustache



Credit: Simon H

We have a new loan telescope in the Bath Astronomers' fleet now. A Celestron C8 Schmidt Cassegrain on a Celestron Advance VX mount with power tank. It has a goto equatorial mount and is a next step from the two Sky-Watcher SkyMax 127 Maksutovs which have proved so popular since we purchased them earlier this year. It enables first steps into deep sky and planetary astrophotography. The new loan telescope is named **Chandra** after the astrophysicist Subrahmanyan Chandrasekhar. He is most remembered for the Chandrasekhar Limit defining the maximum mass of a white dwarf star.

If you want to borrow a telescope, consider the loan of Caroline, Cecilia, or Chandra
<https://bathastronomers.org.uk/telescope-loans/>

The Discover Astronomy Loan box devised by Camilla E and Simon H for Bath Astronomers has had its first tour of duty in St Patrick's Primary School, Corsham. You can read about it in the article later in the Newsletter.

Camilla E has stepped down from the Coordination Team as an ordinary officer this month so she can focus on family, her singing group, and all the wonderful STEAM work she does especially the inspirational robotics programmes she

runs for many schools. Thank you for all the hard work, Camilla. You're a UY Scuti and then some. Camilla will continue to support us and schools in the usage of the Discover Astronomy Loan Box.

A new donation to the Bath Astronomers is a 1900 Howard Grubb of Dublin refracting telescope. It apparently came from City University at the beginning of the 1990's and has been sitting in a garage ever since. It has a 5" diameter objective but the nature of the objective e.g., doublet vs triplet, has yet to be established. Its thought to be a f/12. It is hhheeeaaavvvvyyy. It'll make a good restoration project once we find the right permanent home for it.



Credit: Simon H

The booking of speakers for next season is going reasonably well with just April and May 2024 to firm up. The Autumn season kicks off in September with **Dr Becky Smethurst** of University of Oxford. Dr Becky is an astrophysicist, author and YouTuber with 580,000 followers. She also is one of the main presenters of the Royal Astronomical Society's Supermassive Podcast. Save the **Wednesday 27th September 7:30pm** at Bath Royal Literary and Scientific Institution (BRLSI).



We're doing a bit more with respect to printed materials to help give our events more impact. The first is a series of 4 seasonal handouts for the Herschel Museum entitled Caroline's Almanac. They can be used year on year as a standalone introduction to the night sky. We'll supplement them with a Moon and planets insert every couple of months, so it gives a fuller picture without having to do updates every year. The second is a double sided A3 poster about the Sun, and the features on its surface and in its atmosphere. Also includes fun facts and how to observe the Sun safely.

Loan Box Article for Bath & Wiltshire Parent magazine

The volunteer outreach team at Bath Astronomers have been visiting schools to provide after school stargazing and stellar activities for many years now. These sessions are highly rewarding, and the impact is very tangible in school afterwards but, as a volunteer, you wish you could do more to enthuse and engage pupils in STEAM during the day. That wish has now delivered in the shape of a new Discover Astronomy Loan Box devised by Camilla Evans, STEM Lead Educator, Wishford Schools and provided by Bath Astronomers. The idea is to deliver the resources for busy teachers to supercharge already exciting school space weeks with a plethora of practical space and astronomy related premade lessons and activities across a wide age range.



Credit: St Patrick's

The Loan Box has just visited St Patrick's Catholic Primary School in Corsham for 6 weeks and has been very busy especially with Year 5 under the guidance of Ms Rosie Wilkinson, Key Stage 2 Leader. The Loan Box arrived one damp Friday on schedule and was a little bit of a surprise; a largish self-contained wheeled flight case with the warning on the outside "May contain black holes". It was great to receive pupil's feedback a few weeks later that "without it we wouldn't have learned what we have".

The Loan Box is virtually accompanied by online guides, 6 lesson plans and PowerPoints for those lessons at <https://stem.bathastronomers.org.uk/>. The contents of the box are on 3 separate layers. The bottom houses a fully functional computerised telescope and practice targets to get used to pointing the telescope in schooltime if the Moon is not out – just add AA batteries. The middle is home to binoculars for pupils to find out how they work and learn to use. The uppermost layer of the Loan Box is packed with kits for making planispheres, spectroscopes, a gravity well, and last, but not least, a tellurium. This is a wonderful model of the Sun, Moon and Earth and can be used in class to demonstrate how the Moon orbits the Earth, the phases of the Moon, the seasons of the year, and how eclipses occur. The Gravity Well comprises a ring with a lycra membrane stretched across it and is used to demonstrate how planets, asteroids and comets orbit the Sun or even the orbit that Artemis spacecraft will take to visit the Moon from 2025.

Ms Wilkinson said, "the resources are fantastic" and they "met the needs of all the learners, [and were] so engaging and fun!" The Discover Astronomy Loan Box "helped bridge the attainment range. The more able pupils were challenged, [and] the less able were more engaged and really taken by the physical resources [as] they could feel and see how the solar system worked".

The Year 5 pupils were asked to talk about the Loan Box and how it gave them a different view of Earth in space. "I had no clue the Moon orbited the way that it did, and the tellurium helped me see it better". The box "was amazing because without it we would never have had the experience we had, and I never thought this way about science", and "I think more schools should have them".



Credit: St Patrick's

The visit to St Patrick's also produced several great ideas to add to the accompanying virtual setup guides with some short videos especially for the telescope and the gravity well which Bath Astronomers will follow-up on.

The Discover Astronomy Loan Box is available to schools within 20kms of Bath. It is delivered without charge for a period of several weeks by simply visiting <https://stem.bathastronomers.org.uk/discovery-loan-box/> and making a booking.

'Fullerscopes' - Broadhurst Clarkson and Fuller by Jonathan H



Credit: Jonathan H

For those of us old enough, the chances are you owned (or may still have) a telescope from Fullerscopes or to give them their full title Broadhurst Clarkson and Fuller of Farringdon Road in London. Some of you may have even known or met the charismatic **Dudley Fuller**. The picture to the left shows my 6-inch Fullerscopes reflector on its wooden tripod. The first 'serious' telescope I owned and which sadly, many years later, I sold. Thanks to a Dutch friend (Jan Brandt) a very keen amateur astronomer who has a passion for British made telescopes, I was lucky enough to also borrow for while an 8-inch version which, in time, went back to him in Holland.

When I started looking into the history of 'Fullerscopes', I was amazed to find the company had a long history right back to Benjamin Martin (1704 – 1782), a teacher and scientific instrument maker. The business passed through several different owners eventually becoming Broadhurst Clarkson & Co. trading at 'Telescope House', 63 Farringdon Road, London. In the face of increasing overseas imports and on the verge of collapse the business was acquired by Dudley Fuller in 1973. Thus becoming 'Broadhurst, Clarkson & Fuller Ltd' (BC&F). Dudley himself had established his own business 'Fullerscopes' back at the beginning of the 1960's when, attempting to make his own simple amateur

telescope, he realised there was a gap in the market. His business blossomed and by 1968 he was trading at 760 Finchley Road latterly taking on work for the then Broadhurst Clarkson & Co. Having taken over their business in 1973, all operations moved to the Farringdon Road address.

The company, over the years, had on their books some famous customers including amongst others Sir Patrick Moore. Again I was fortunate with my Dutch friend Jan to visit Patrick and to see his collection of telescopes at 'Farthings' in Selsey in 2008, the picture here shows us standing next to his 15 -inch Fullerscopes reflector. So, if any of you have an old 'Fullerscopes' telescope languishing in the loft or back of the shed needing a new home – please *let me know!!*

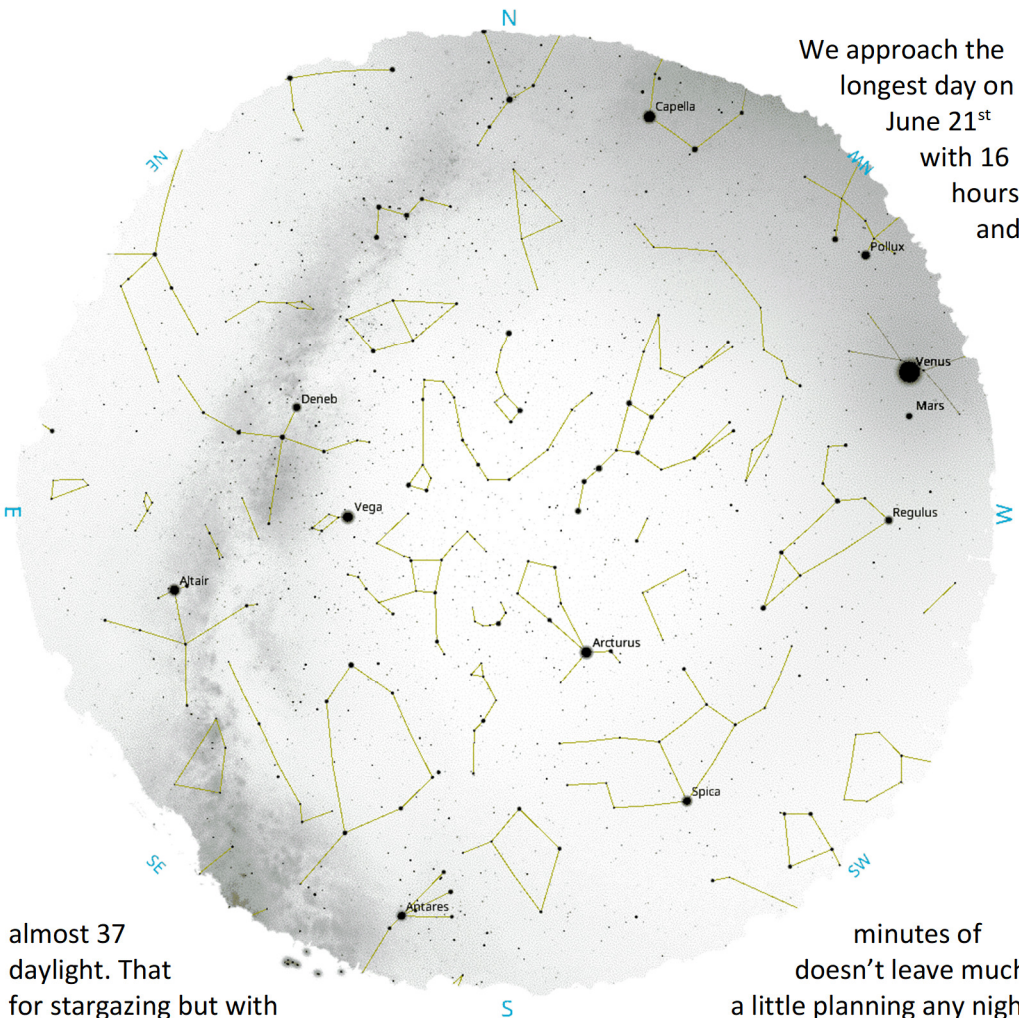


Credit: Jonathan H

FOOTNOTE

I should add that although the shop in Farringdon Road closed its doors in 2014 the story continues. **Steve Collingwood** who was the last craftsman at Broadhurst, Clarkson and Fuller, and was the head engineer at Telescope House, owns and runs **SC Telescopes**, repairing and servicing telescopes. He also owns the historical company of Broadhurst, Clarkson and Fuller Ltd and is director of **Pulsar Observatories**. You are also no doubt familiar with the existence of '**Telescope House**'. This company, which also comprises of some of the former staff have in partnership with the optical manufacturing giant Bresser GmbH, formed **Telescope House (Bresser UK Ltd)** in 2014 and now offer a phone/online order service for telescopes and accessories. Some of you may know far more about the history and what happened after 2014. If so, we'd love to hear from you and indeed any of your stories about BC&F.

The Sky this Month



We approach the longest day on June 21st with 16 hours and

almost 37 minutes of daylight. That doesn't leave much for stargazing but with a little planning any night can be a great night under the stars. The densest part of the Milky Way, the Galactic Central Bulge, swings through the southern cardinal point in the early hours each morning giving a great photo opportunity if you've no light pollution to the south and a good low horizon. Popping along to the south coast is a good idea. The kids can play in the sand during the day and at night their parents can photograph a hundred billion stars sinking into the sea.

Whilst you are out keep an eye out for noctilucent clouds 60 to 90 minutes after sunset in the northwest and the same before sunrise in the northeast. They are usually low and a distinctive wavy, electric blue, and change in the period of just a few minutes. Finally they fade quickly with the approaching Sun when you'd expect clouds to brighten.

Arcturus, the Bear Guard is prominent to the south with Spica in Virgo just below it. To the east, the Summer Triangle (Lyra, Deneb, Altair) is one of the first things to pop out as the Sun dips further below the northern horizon in the evening.

With the brighter skies, visually looking at deep sky objects becomes difficult but globular clusters still impress and there are many to choose from. M3 in Canes Venatici, the Great Star Cluster M13 and M92 in Hercules, the Rose Cluster in Serpens, the Gumball Globular M12 and M10 in Ophiuchus, and the Spider Globular M4 and the Flickering Globular M62 in Scorpius. Should be enough to start with. There is noticeable variety in compactness, features, and brightness.

If you have access to a telescope with a wider aperture and the Moon is New or below the horizon, have a crack at planetary nebula. Start with the old favourite, the Ring Nebula M57 in Lyra, but then try the Cat's Eye Nebula NGC6543 in Draco. If that floated your boat have a go at the Blinking Nebula NGC6826 in Cygnus. Goodluck.

The Moon

Full Moon 4th
Last Quarter 10th
New Moon 18th
First Quarter 26th

Planets

Mercury is a morning planet appearing just before sunrise so essentially not visible.

Venus is the standout object in the western sky each evening. It reaches greatest eastern elongation and dichotomy on 4th June and so its altitude will decrease throughout the rest of the month. On 21st June, the Crescent Moon will be close by.

Mars is tiny now. Smaller than Mercury in telescopes. It is still visible being chased by Venus until 27th June but by month end it'll be lost to the twilight.

Jupiter is a morning planet high enough for a view at 03:00 but the ecliptic is shallow this time of year so it doesn't rise very high before sunrise. It improves throughout the month.

Saturn is in the same situation as Jupiter.

Neither of the ice giants Uranus and Neptune are visible at present

Sun on 1st

Sunrise 04:58 UTC+1
Sunset 21:16 UTC+1

Sun on 30th

Sunrise 04:56 UTC+1
Sunset 21:29 UTC+1

Summer Skies by Jonathan H

*Eager eyes are skyward fixed
As twilight lingers the sun betwixt
Its celestial dance dividing dark and light
Skies of crimson, neither day or night
A crescent Moon hanging in the West
Outshone only by brilliant Venus's caress
Patience will bring the stargazer reward
As gradually the darkness is abroad
And one by one the stars divulge
Their shimmering light, their stories told
Born from galactic nebulous creations
Our souls are touched by their revelations.*

[22 May 2023]

Useful Links

If you'd like to update your membership details, you can do so at:
<https://membermojo.co.uk/bathastronomers/yourmembership/>

The Society's web site is:
<https://bathastronomers.org.uk>

Information on the telescope loan scheme can be found at:
<https://bathastronomers.org.uk/telescope-loans/>

The Society's STEM web site is:
<https://stem.bathastronomers.org.uk>

The Society YouTube channel is: <https://www.youtube.com/@bathastronomers>

WhatsApp for Observing <https://chat.whatsapp.com/J582FGxdY4WYH6KtsiEfs>

WhatsApp for Social <https://chat.whatsapp.com/JUbsmxTCuri8haYshR52Vm>

WhatsApp for US Eclipse <https://chat.whatsapp.com/KZcqD3MaDbQ3d94FNV4f3o>

The Society has the following social media accounts:



<https://www.facebook.com/BathAstronomers>



<https://twitter.com/BathAstronomers>



<https://www.instagram.com/bathastronomers/>

Society Health

We currently have 103 active members and a healthy bank balance of £2,431.02 (May 15th).

Next Coordination Team meeting on Thursday 13th July at 7:30pm

Other Local Societies

Bristol AS

<https://bristolastro.org.uk/>

Herschel Society

<http://herschelsociety.org.uk/>

Somerset Levels

Stargazers

<https://www.somersetlevelsstargazers.co.uk/>

Starquest Astronomy Club

<https://www.starquestastronomy.co.uk/>

Wells and Mendip Astronomers

<http://www.wellsastronomers.org.uk/>

Wiltshire AS

<https://wasnet.org.uk/>

Both Beckington Astronomical Society and Tiverton and North Devon Astronomical Society closed their doors this spring. Both folded due to not enough volunteers for their committees.

The more people that get involved in our coordination team the better Bath Astronomers can be and the more confident we can be of a long future ahead.