

Edited by Robert Shanks



Welcome to the newsletter of the Blackburn Leisure Astronomical Society. Whilst we try our best to keep safe and isolate ourselves in line with government guidance at this incredibly difficult time, we have had no option but to close the observatory. This means we must communicate in other ways. See page 2! Ironically the current situation affords more time to pursue the things we enjoy and we open this month with two articles by Andy Russell, one of which demonstrates how we can all listen to meteors from the comfort of our homes...

Happy Birthday Hubble!

We begin this month with the celebration of the 30th Anniversary of the Hubble Space Telescope which was carried into orbit by the Space Shuttle Discovery on mission [STS-31](#) and deployed on the 24th April 1990. It became apparent within weeks that there was a problem with the main mirror, and it was not until the first servicing mission [STS-61](#) in December 1993 that the corrective optics were installed and the telescope was able to be used to its full potential. There have been a further three servicing missions, the last being [STS-125](#) flown by Space Shuttle Atlantis on the 11th May 2009 which replaced a guidance sensor, six gyroscopes, and two battery unit modules to allow the telescope to continue to function at least through 2014 and it is expected to remain operational until 2030.



Listen to the Lyrids!

This month sees two overlapping meteor showers: The Lyrids start on the 15th April and continue up until the 28th April, whilst the η (Eta) Aquarids start on the 19th April and continue until the 27th May. For those wanting to view the Lyrids, the peak occurs on the 22nd April, coinciding with the dark skies of the new moon and hence should be able to see approximately 15 meteors an hour radiating from a northerly direction in the constellation of Lyra. Although the η Aquarids meteor shower which follow on the 6th of May is more active, with approximately 60 meteors per hour, it is more challenging to view as the radiant is low in the eastern sky and can be seen better from southerly latitudes. Ideally, we would have liked to have set up the Yagi antenna to observe these meteor showers by radar, this is unlikely due to the lockdown in the UK, and hence we need to use on-line resources such as the Dwingeloo radio telescope in the Netherlands – thankfully the volunteer group that maintains the 25-metre dish has also set up a number of software defined radio receivers that can be accessed using a web browser. Type “Dwingeloo Web SDR” into Google and follow the link to <http://websdr.camras.nl:8901/> and visit the BLAS website for [instructions](#) how to use the receiver for meteor reception.

The number of meteors that can be seen in a given time period are described by what is known as the Zenithal Hourly Rate (ZHR), which is the number of meteors that an observer would expect to see in an hour under ideal conditions. So just how many can I expect to see on a given night? As you would expect meteors behave like buses, in that you might have to wait a long time for one and then several come at once. Random events such as meteors, radioactive decay, and buses, are described in statistics by the Poisson Distribution. If you want to know more about this, then Google “Poisson Distribution Meteors” to read an excellent [article](#) on the Towards Data Science website – there’s also a link in this article to The Waiting Time Paradox, or, [Why Is My Bus Always Late?](#)

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Zoom in to BLAS meetings

No doubt some of you are already using technology at home or work to communicate with loved ones, either on your computers tablets or phones. One great way we have found is by the use of Zoom. This software application can be found in the iPhone/iPad App store, Google Play store if you are using phones and tablets or downloaded on to a PC and allows virtual meetings to be held on line with multiple members via their own webcams. Along with this news letter we are proposing that as many members as possible dial into our test of the system which should allow the host to conduct a virtual meeting as we would do if we were at the observatory! Zoom is a completely free service. All you need is a home computer with a webcam or a tablet or smartphone with an internet connection. The application allows the host or anyone else to share their screens and run through their photographs or presentations as if we were all together. With the consent of those present on the call, the meeting could also be recorded and hosted on the site for those unable to make the meeting times. For those of you who completely shy away from the technology please call myself and we will try and guide you through the setup to enable this. The service is being tested as we speak. We are proposing to host this month's BLAS meeting on Monday 27th by this method at 8 PM. All you need to do is look for your email invite on Monday the 27th at 8 PM and then click the link to join the meeting!

Readers Scopes...

The Covid-19 situation has allowed other members to progress their home projects. In the "Readers Scopes" section this month we have David Kitching to thank this month for his photograph of his almost-completed observatory this month!



In other news, our recently released BLAS Facebook page managed by Eleanor Russell has already proved invaluable in the current climate! It would seem that the observatory alarm system was false triggered a couple of weeks ago but someone managed to get a message to us via Facebook in order to reset it!



Whilst on the subject of Hubble's 30th birthday, Brian Davies has pointed out that NASA's [Astronomy picture of the day](#) archive continues to

deliver some stunning images. Have a look through Hubble's eyes at [NGC 253 The Silver Coin Galaxy](#) or the [Horsehead Nebula in Infrared from Hubble](#) or [NGC 1672 Barred Spiral Galaxy](#).

Slightly off topic but equally as stunning, have a look at this [212 Hour Exposure of Orion](#) by Stanislav Volskiy & Judy Schmidt (Pictured right). Pull up the image to overlay Orion on it as you have never seen it before.



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