

Edited by Robert Shanks



Welcome to the newsletter of the Blackburn Leisure Astronomical Society, the one stop shop for news, future projects, events, visits, lectures and general communications. Please see our website of members' photographs and Publications at the link below.

Remember the observatory is open almost every Friday evening, and often on Tuesdays and other times by arrangement. In general as per the BLAS moto 'If it's clear we'll be here !'

### Recent meetings

BLAS May and June 2019 meetings have included updates from Tim Old on unmanned missions to the asteroids. 2019 so far has yielded some great pictures. Jupiter has shown us its banding & despite the washout weather in the early part of this month; Paul Reed has sent back some great time-lapse shots of Mercury & Mars from Spain. BLAS was once again graced by [Noctilucent clouds](#) during the evening of the Friday 21<sup>st</sup> June. The club also heard its first meteor detections. Club night discussion also centred around Emissions spectrums and Absorption lines ! The club has also been donated two new Windows XP & Windows 10 laptop computers, three Baader narrow-band optical filters, a 2.5 inch Skywatcher telescope and various Astronomy books adding to our library. George King and the committee would like to extend their sincere thank you for those kind contributions.

The June club night presentation and photographs can be found [here](#).

### One Small Step For Radio Astronomy !

Thanks to the GRAVES (Grand Réseau Adapté à la Veille Spatiale) space surveillance radar in Dijon, France, we are able to utilise the principals of RADAR and use a Radio receiver to hear the reflections from the ionised trails left by meteors entering the Earth's atmosphere.

On Friday 21<sup>st</sup>, the author and Andy Russell built, aligned and tested an antenna.



After some successful tests approximately a dozen meteors were heard in the space of about 1 hour. The next steps aim to use a small inexpensive USB Software Define Radio dongle and a computer enabling future observations, recording and collaboration. Further detail of the evenings events and the GRAVES signal can be found [here](#). Use the link on the right of the page to hear a ping from one of the meteors detected !

## Moon Landing Open Day

To coincide with the 50<sup>th</sup> anniversary of what is undoubtedly mans greatest achievement, BLAS will be opening its doors to the general public from 3PM on July 20<sup>th</sup> to commemorate the moon landings. There will be newspaper clippings from 1969 and we will be showings films of the time. Where were you at the time? Pop in, see what we do and share your Apollo experiences. Children welcome, launch your own water rocket, and see the Lego Apollo Lunar Lander Refreshments will be served. Donations to club funds welcome!



The LEGO® Apollo 11 Lunar Lander  
(Courtesy of <https://shop.lego.com>)

For publication in this newsletter and general feedback, please contact [Bob@5150time.co.uk](mailto:Bob@5150time.co.uk)  
[www.broughastronomy.co.uk](http://www.broughastronomy.co.uk) Providing a window on the Universe for all !

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### Taurid Meteors

Co-incidentally on the theme of meteors this month, Joyce O'Dwyer has pointed out that we are currently in meteoroid swarm that has Astronomers worried. The Taurid Swarm will make its closest post-perihelion approach to our planet since 1975. It is thought that a large area of forest in Siberia Tunguska could have been devastated in 1908 by this swarm. Click [here](#) for the full story.



The Taurid Swarm of 2015 over the Czech republic  
(Photographed by Martin Popek)

### BLAS Outreach

The BLAS Astronomy for Beginners learning sessions intended for members and non-members is continuing to progress well. The Remaining 2019 Sessions will be :-

4th July Safe Solar and Radio Astronomy  
18th July The Age of the Universe - Cosmology  
1st August (Extension project) Making Pictures

### Photographic Exhibition

The Petuaria Library in Brough hosted its 2019 art and photographic display in which astronomical photographs were entered by the membership promoting BLAS awareness to local people. A big thank you to those who contributed.



The Whirlpool Galaxy (M51), The Lunar Eclipse of January 2019, and The Andromeda Galaxy (M31) These pictures are now on display at the observatory

### This Months Caption Competition



Answers to the editor please!

### HERAS News



HERAS will be hosting the British Astronomical Societies (BAA) Back To Basics show in March 2020 and invited local groups to attend. Please speak to Helen Marshall if you would like to support this event.