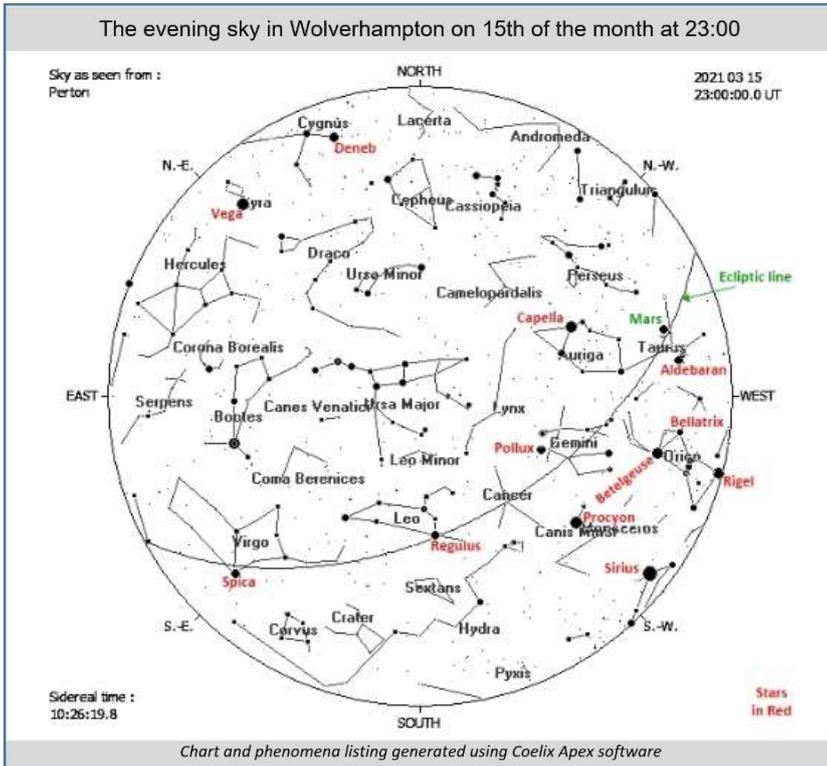


The Night Sky in March 2021

- a quick and easy guide



Monthly Guide Compiled
by Doug Bickley



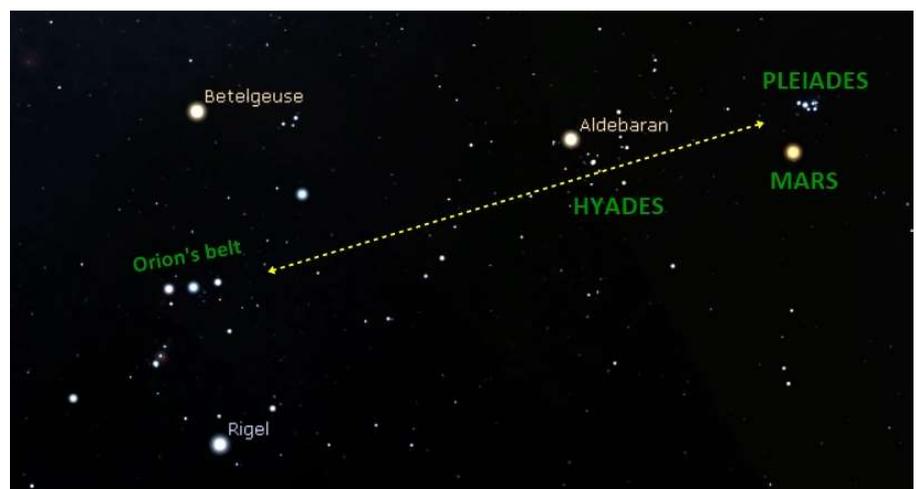
MOON PHASES	
Third (last) quarter	6 Mar
New Moon	13 Mar
First quarter	21 Mar
Full Moon	28 Mar

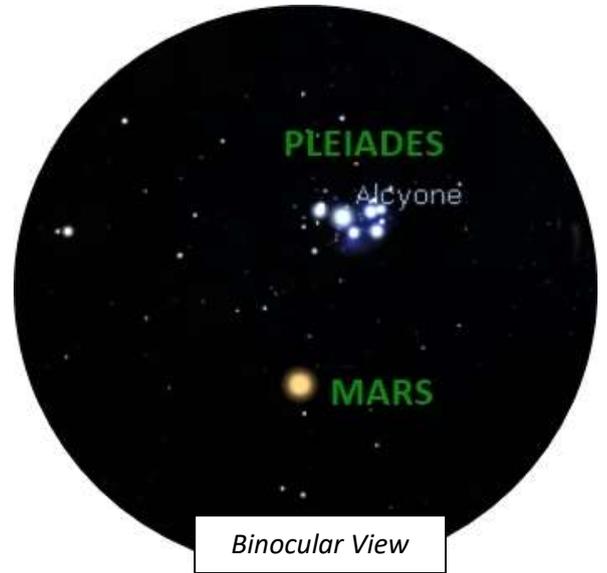
Events this month to look out for:

- 1 Moon above Spica (late evening)
- 2/3 Mars south of Pleiades M45 (evening) (picture below)
- 4 Asteroid Vesta at opposition (visible all night)
- 5 Mercury and Jupiter in conjunction (morning twilight)
- 8 Mars on a line between Pleiades and Aldebaran (evening)
- 9 Crescent Moon left of Saturn (bright morning twilight)
- 18 Moon forms a triangle with Pleiades and Aldebaran (evening)
- 19 Moon and Mars line up with Aldebaran (evening)
- 20 Spring equinox (day becomes longer than night)
- 22 Moon forms a triangle with Castor and Pollux (evening)
- 28 British Summer Time begins
- 29 Moon near Spica in Virgo (evening)

A viewing and photo opportunity:

The Pleiades (Seven Sisters) open star cluster is visible with the naked eye, and the belt stars of the Orion Constellation give a pointer to it. This image for 2 March was generated using the free Stellarium software package





Mars is our star performer for the month of March. More in the planet write up further on, but first on the evening of the 2 March the Red Planet will be close to the Pleiades open star cluster. Binoculars, a small telescope or a camera with, say, a 200mm lens will show the conjunction nicely.

Moon

Full Moon is on 28 March, this phase occurring 18:48 UT. Moon phases this month are shown here:

[Generated using CoelixApex software]

I've mentioned the names of these before, and the March full moon is called amongst other names the Worm Moon.

I haven't mentioned the derivation of these before, and so here is a quote from the Royal Museums Greenwich:

“Over time, different cultures have given names to full moons across the lunar calendar. Many of the Moon's nicknames have come to us from Native American culture because for their way of life, the cycles of the lunar phases were just as important a method of timekeeping as the longer solar cycle of the year (from which the modern Gregorian calendar is derived). Native Americans called [the March Worm Moon] the last full moon of winter after the worm trails that would appear in the newly thawed ground. Other names include chaste moon, death moon, crust moon and sap moon, after the tapping of the maple trees.”

March marks the end of the cold winter months and the beginning of spring (we hope!). It also means that nights are lighter and targets potentially more difficult.

Some people now concentrate on the Moon or the Sun, both of which with the right equipment are excellent spring and summer targets, and good images of the Moon can easily be had during the day.

*Moon taken in daylight 25 March
300mm lens f/5.6 1000sec handheld
at 4.30pm by Doug Bickley*

Sunday	Monday	Tuesday	Wednesd.	Thursday	Friday	Saturday
	1	2	3	4	5	6
					LQ at 20:30 ST	
7	8	9	10	11	12	13
						NM at 05:21 ST
14	15	16	17	18	19	20
21	22	23	24	25	26	27
FQ at 09:40 ST						
28	29	30	31			
FM at 13:48 ST						



Planets this month:

Jupiter is in the ESE in Capricornus but at a low altitude. At the start of the month it will rise about 45 minutes before the Sun, but a shallow ecliptic angle at this time of year keeps its location poor. During March in the morning sky at sunrise, Jupiter just doesn't achieve sufficient altitude to be easily observable. It has a very close encounter with mag. +0.2 Mercury on the 5 March, both planets separated by just 19 arcminutes as they pop up above the ESE horizon. On 31 March, despite rising 70 minutes before the Sun, Jupiter doesn't quite make 9° above the horizon before sunrise.

Saturn is in the SE in Capricornus and as Jupiter has a low altitude. During March, it moves further from the Sun in the morning sky, but despite this the planet remains low. It appears 8° to the west of Jupiter on the 1st, a separation that increases to 12° by month end. A 17%-lit waning crescent Moon sits to the WSW of Saturn on the morning of the 9 March. At month end Saturn attains an altitude of 8° above the SE horizon before the onset of morning twilight.

Mercury is in the ESE also in Capricornus but an extremely low altitude will make observations very difficult. The planet is poorly placed in the morning sky all month, despite reaching greatest western elongation on 6 March. Jupiter, Saturn and Mercury appear together this month; on 5 March, mag. +0.2 Mercury lies near to mag. -1.8 Jupiter while mag. +0.9 Saturn lies 9° to the west. On 10 March, Mercury lies 4° east of Jupiter with a 10%-lit waning crescent Moon sitting 11° to the SW. The Moon rises 30 minutes before the Sun on this date, Mercury appearing 10 minutes before the Moon, but you'll find the bright morning twilight will make this a tricky observation – and be careful looking towards the sunrise.

Venus is unlikely to be seen throughout the month. It reaches superior conjunction on 26 March when it transitions from being a morning to an evening object.

Uranus is in the WSW in Aries and March will be the last chance to spot the planet until later in the year as it becomes lost in the evening twilight.

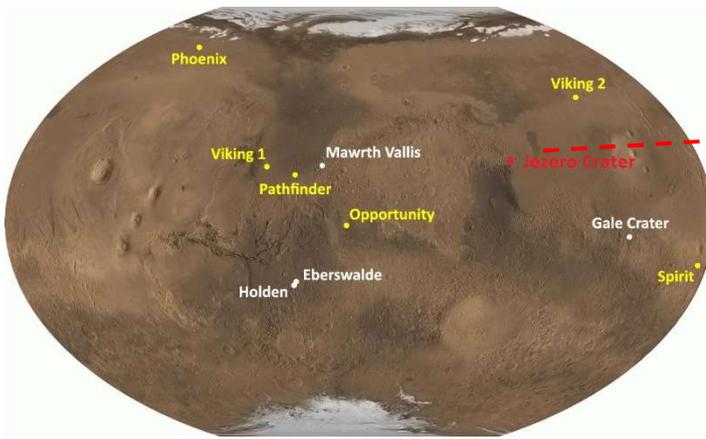
Neptune is not visible this month. It will pass very close to the Sun in the sky as its orbit carries it around the far side of the solar system from the Earth. At closest approach, Neptune will appear at a separation of only 1° from the Sun, making it totally unobservable for several weeks while it is lost in the Sun's glare.

Mars is in the SW in Taurus and is the star of the show this month, planet observation being generally poor in March due to their closeness to the sun, and even observations of Mars are continuing to deteriorate, it is currently an early evening object, but is now receding into the evening twilight. At the start of the month Mars shines at mag. +0.9 only, and by month end will have dimmed further to mag. +1.3 as it tracks east and passes across the northern part of the constellation of Taurus. At the beginning of March, it is located south of the Pleiades open cluster, M45, lying just 2.5° from the cluster on the 4 March. It will be 7° north of Aldebaran on the evening of 19 March, and then the Moon will be visible between Mars and Aldebaran, roughly one third of the way along a line joining both objects, starting from the planet. The Moon will appear as a 33%-lit waxing crescent on this date. Mars is now entering a period where it is too small for serious observation. The next opposition occurs on 8 December 2022 and it will reach a decent altitude in Taurus.

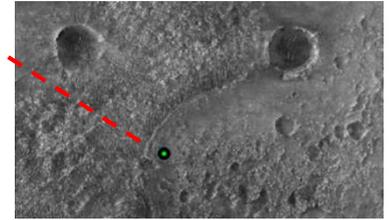
You will I hope have seen the Mars Perseverance landing on 18 February.

Mars panorama from Mastcam-Z





Landing site in Jezero Crater



NASA is saving raw images which are interesting to look through, 5614 images at the time of writing:
<https://mars.nasa.gov/mars2020/multimedia/raw-images/>

Meteor Showers – none this month.

International Space Station (ISS) forecast time for evening passes visible this month:

Data taken from the Heavens Above website, please recheck nearer the chosen day to get updates.

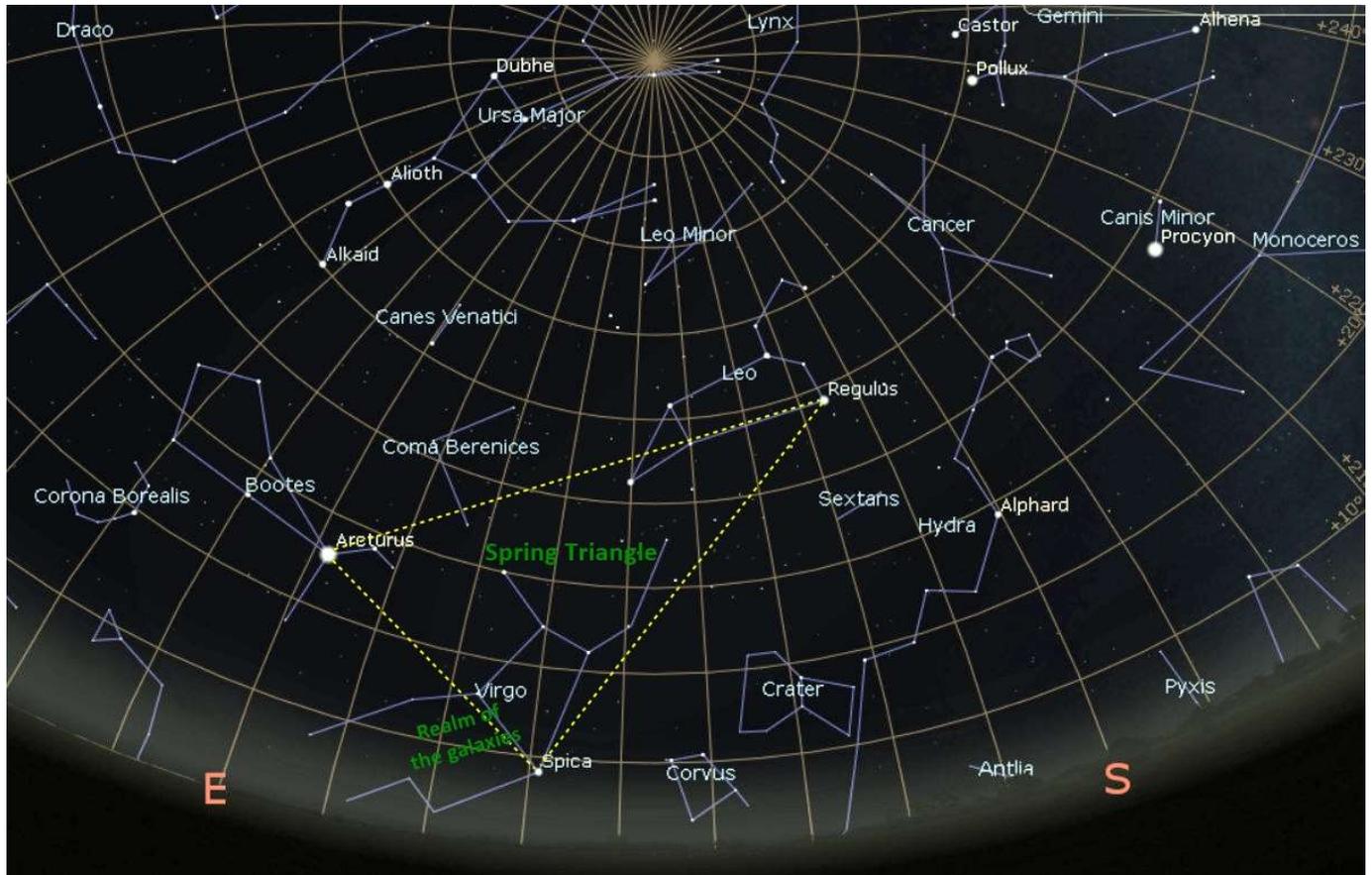
[source: <https://www.heavens-above.com/>]

Date	Mag	Transit time	Time	Start Alt.degs.	Az.	High point	Time	End Alt.degs.	Az.
18-Mar	-1.6	01:00	19:59	10°	S	15°	20:00	15°	S
19-Mar	-1.7	02:41	19:13	10°	S	13°	19:15	12°	ESE
19-Mar	-1.5	01:03	20:47	10°	SW	18°	20:48	18°	SW
20-Mar	-3.0	03:15	20:00	10°	SW	34°	20:03	33°	SSE
21-Mar	-2.5	05:11	19:12	10°	SSW	25°	19:18	13°	E
21-Mar	-2.6	02:13	20:48	10°	WSW	37°	20:51	37°	WSW
22-Mar	-3.6	04:18	20:01	10°	WSW	55°	20:05	37°	ESE
22-Mar	-0.9	00:38	21:37	10°	W	15°	21:38	15°	W
23-Mar	-3.2	06:14	19:13	10°	SW	44°	19:19	11°	E
23-Mar	-3.2	02:42	20:50	10°	W	53°	20:52	53°	WSW
24-Mar	-3.8	04:42	20:02	10°	WSW	74°	20:07	34°	E
24-Mar	-1.1	00:53	21:39	10°	W	17°	21:40	17°	W
25-Mar	-3.7	06:36	19:14	10°	WSW	65°	19:21	11°	E
25-Mar	-3.3	02:51	20:51	10°	W	57°	20:54	57°	WSW
26-Mar	-3.8	04:46	20:03	10°	W	76°	20:08	32°	ESE
26-Mar	-1.1	00:55	21:40	10°	W	17°	21:41	17°	W
27-Mar	-3.7	06:41	19:15	10°	W	77°	19:22	10°	E
27-Mar	-3.1	02:51	20:52	10°	W	46°	20:55	46°	SW
28-Mar	-3.6	04:46	21:04	10°	W	62°	21:09	30°	ESE
28-Mar	-1.0	00:40	22:41	10°	W	14°	22:42	14°	WSW
29-Mar	-3.7	06:41	20:16	10°	W	71°	20:23	10°	ESE
29-Mar	-2.4	02:44	21:53	10°	W	30°	21:56	30°	SW
30-Mar	-2.9	04:45	21:05	10°	W	40°	21:10	24°	SSE
31-Mar	-3.2	06:34	20:18	10°	W	51°	20:24	10°	ESE
31-Mar	-1.6	02:20	21:55	10°	WSW	16°	21:57	16°	SW

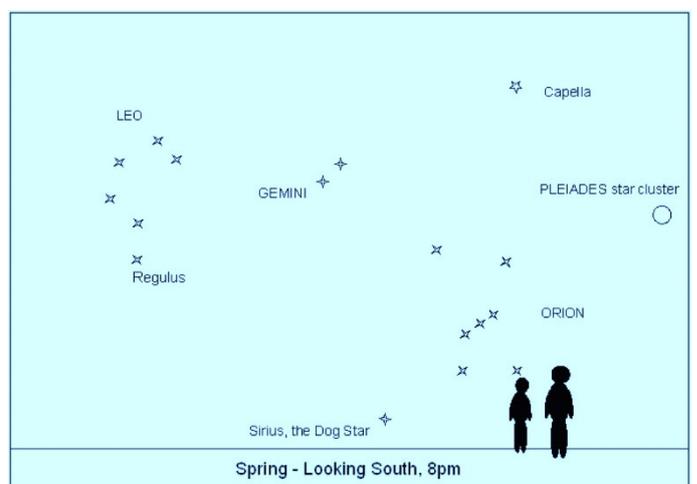
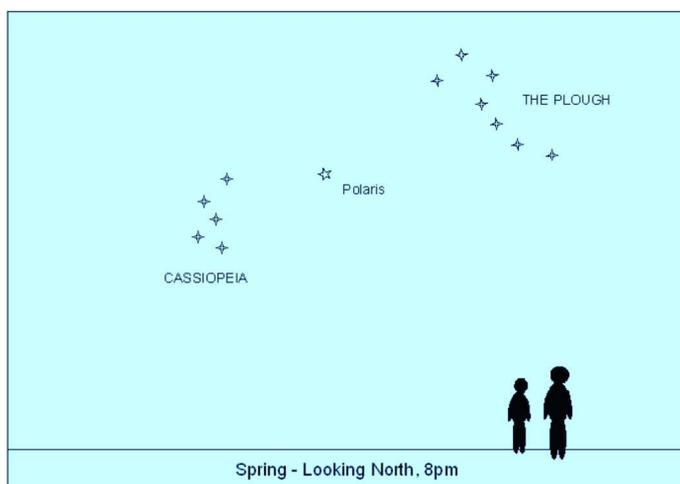
DEEP SKY OBJECTS (DSO)

Spring is famously known as "Galaxy Season", but in this beginner's guide we won't be concerned with these or other deep sky objects, there are plenty of monthly journals and internet resources that you can read in depth. We should here concern ourselves more with learning how to recognise the most well-known constellations so that we can use these as a road map to find our way round the sky.

Here is a view generated by the free Stellarium program for 15 March:



If this looks a bit busy and complicated simpler views (courtesy darksky.org) is shown below, and these might help you identify the shape and positions of the most well-known Spring constellations:



As I've said before there are plenty of books and smartphone apps that can assist you. Also check the Wolvas website for dates of our meetings and join one of our chat evenings, we're very happy to help.



Asteroid Vesta - Something different

– how about looking for another planet?

Well not exactly another planet, but visible all month, on 4 March asteroid (or minor planet) Vesta reaches opposition in the constellation of Leo and is at its brightest, mag. 6 and so technically a naked eye object. You will need good dark skies with no

moonlight or light pollution to stand a chance at spotting it unaided, but 7x50 and larger binoculars will certainly help pin it down.

Vesta is the second biggest asteroid (after Ceres) at 330 miles across and orbits the Sun every 3.63 years.

If you do manage to spot Vesta it will just look 'star like'. This is exactly how William Herschel described the first asteroids, the word meaning 'star like'! During the week following opposition it passes close to the star Chertan (mag. 3.3) as shown. Vesta remains brighter than mag. 7 for the rest of spring until we lose it in early summer.



Phenomena of the month of March:

	Date	Hour	Description of the phenomenon
	yyyy mm dd	hh:mm	
1	2021 03 02	05:19	Moon at perigee (geocentric dist. = 365423 km)
2	2021 03 04	11:45	Close encounter between Mars and the Pleiades (topocentric dist. center to center = 2.6")
3	2021 03 04	14:11	Opposition of the asteroid 4 Vesta with the Sun (dist. to the Sun = 2.345 AU; magn. = 6.0)
4	2021 03 05	05:55	Close encounter between Mercury and Jupiter (topocentric dist. center to center = 0.3")
5	2021 03 06	01:30	LAST QUARTER OF THE MOON
6	2021 03 08	23:46	Close encounter between the Moon and Pluto (topocentric dist. center to center = 2.5")
7	2021 03 09	23:46	Close encounter between the Moon and Saturn (topocentric dist. center to center = 4.2")
8	2021 03 10	18:58	Close encounter between the Moon and Jupiter (topocentric dist. center to center = 4.3")
9	2021 03 11	00:03	CONJUNCTION between Neptune and the Sun (geoc. dist. center to center = 1.1")
10	2021 03 11	01:56	Close encounter between the Moon and Mercury (topocentric dist. center to center = 4.2")
11	2021 03 13	10:21	NEW MOON
12	2021 03 14	02:00	Mercury at its aphelion (distance to the Sun = 0.46670 AU)
13	2021 03 17	03:52	Close encounter between the Moon and Uranus (topocentric dist. center to center = 3.3")
14	2021 03 18	05:04	Moon at apogee (geocentric dist. = 405253 km)
15	2021 03 19	19:43	Close encounter between the Moon and Mars (topocentric dist. center to center = 2.3")
16	2021 03 19	21:25	Close encounter between the Moon and Aldebaran (topocentric dist. center to center = 4.7")
17	2021 03 20	09:37	SPRING EQUINOX
18	2021 03 21	14:40	FIRST QUARTER OF THE MOON
19	2021 03 26	04:23	Close encounter between the Moon and Regulus (topocentric dist. center to center = 3.5")
20	2021 03 26	06:53	SUPERIOR CONJUNCTION of Venus with the Sun (geoc. dist. center to center = 1.3")
21	2021 03 28	18:48	FULL MOON
22	2021 03 30	03:29	Close encounter between Mercury and Neptune (topocentric dist. center to center = 1.3")
23	2021 03 30	06:12	Moon at perigee (geocentric dist. = 360309 km)

Generated using CoelixApex software

WOLVERHAMPTON ASTRONOMICAL SOCIETY LECTURES

- Given the current situation regarding the coronavirus in the UK, and following the current Government advice to avoid all unnecessary social interaction for the foreseeable future, we have put on hold our usual face to face meetings. But the good news is that we haven't cancelled events but simply moved them online, so we can continue to bring you great talks in your own home!
- We continue to try and bring you some of the best speakers around and we have an exciting line up for the coming season.

It has been decided that for the coming year Wolvas subscription will be only £10 per annum and you can sign up now our website www.wolvas.org.uk

Lectures online will only be available to paid-up members of Wolverhampton Astronomical Society.

Here is a taster for upcoming lectures (all starting at 7.30pm on YouTube followed by Zoom Q&A):

8 March

Paul Pope Lecture:

Chris Lintott – The Crowd and the Cosmos
Astronomer Chris Lintott, best known as co-presenter of the BBC's long running Sky at Night programme, explains how you could help astronomers sort through galaxies, explore the surface of Mars, or even discover a planet. This is the story of the Zooniverse, which has enlisted more than two million people in search for cosmic truth.

Also a chance to order an autographed copy of the book!

Wolverhampton Astronomical Society
Proudly present their Annual free Public Lecture
Monday 8th March online at 7:30pm

"The Crowd and the Cosmos"
The story of the Zooniverse project

Professor Chris Lintott

www.wolvas.org.uk Find us on social media: [f](#) [t](#)

The banner features a book cover for 'The Crowd and the Cosmos' on the left, a portrait of Professor Chris Lintott on the right, and the Wolverhampton Astronomical Society logo in the top right corner.

22 March

Tracey Snelus – Aurora: The Greatest Light Show On Earth

12 April

Paul Fellows – Children of Another Sun

17 May

Damian Hardwick – Inventor, Investigator and Innovator: The life of Sir John Herschel

14 June

Paul Money – Why Are There No Green Stars?

Watch out for updates

As well as our webpage www.wolvas.org.uk we will be posting details of events on social media, so keep an eye on our Facebook (<https://www.facebook.com/wolvasuk>) and Twitter (<https://twitter.com/wolvasuk>) accounts for the latest updates and news.