Wiltshire Astronomical Society

WAS News

January 2026

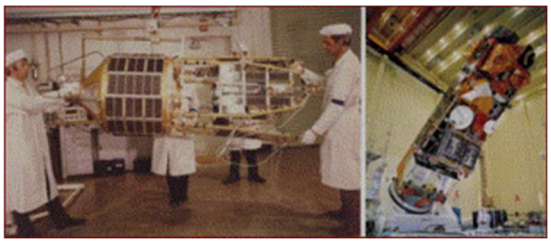
Member Society

This Month We Welcome.....

Mr Terry Ransome

Filton in Space - 65 years and Counting

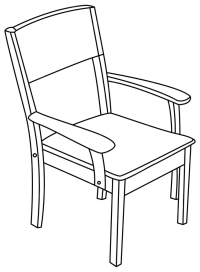
I worked in the aerospace industry for over 30 years – building and testing satellites and spacecraft. That took me to launch sites around the world, the most memorable perhaps being a launch campaign at the Russian site at Baikonur in Kazakhstan – with the UK's Beagle2 Mars Probe.
That done, I took early retirement but became heavily involved with the British Schools Museum in Hitchin, Hertfordshire. I managed the museum (as a volunteer) for 3 years, and was a Trustee for 6 years. There, I developed a love of local history, acquired an in-depth knowledge of the early history of elementary education, and became an advocate of lifelong learning.
I am currently a Collections Research Volunteer at the Aerospace Bristol Museum.



The Filton, Bristol, works of the British Aircraft Company, entered the 'space race' in 1956 and provided part of the first British rocket to reach space in November 1957, just a few weeks after Sputnik 1.
The space business continued in the hands of British Aerospace and Matra Marconi Space until in 1999 it transferred elsewhere.

Inside this issue

Special points of interest



Comments from the Chair

Welcome everyone, and a very **Happy New Year.**

I wonder how many of you were lucky enough — and well behaved enough — to receive astronomy equipment or books from Santa this Christmas? Our experienced members are always on hand to help you with your new acquisitions if you need.

One of the most intriguing stories I have read recently concerns **dark energy**. Long a subject of debate, new evidence suggests that dark energy may be changing in ways that challenge our current understanding of time and space. A South Korean research team has proposed that, rather than the Universe continuing to expand forever, gravity could eventually cause galaxies to be drawn back together, culminating in what astronomers refer to as a *"Big Crunch"*. While other astronomers have questioned these conclusions, they have not yet been able to fully dismiss the team's claims.

You can read more about this fascinating topic later in the newsletter (page 6).

With several clear nights over the past month, our imaging members have been busy once again, and their excellent results can be seen on pages 10 and 11. You may also have noticed the updated image on the members' Facebook pages — my thanks go to Matthew Terrell for kindly allowing us to use his image of the Horsehead Nebula.

Just over 53 years ago, the final Apollo mission landed on the Moon, bringing the Apollo programme to a close. Now, NASA is preparing to launch four astronauts on a 21-day lunar flyby mission in early February, although the schedule remains subject to change. While this will not be a landing mission, it will take astronauts farther from Earth than any human flight since Apollo.

This mission will also mark the first time astronauts fly aboard the Space Launch System (SLS) rocket and the Orion spacecraft; although Orion has flown before, it has only done so without a crew. A crewed lunar landing is currently planned for next year, but I suspect this may slip. The Human Landing System (HLS) has yet to be fully proven, and during Apollo, two crewed test flights of the Lunar Module were conducted before an actual landing. (Apollo 9 in earth orbit and Apollo 10 in lunar orbit) Choosing not to follow a similar approach with the HLS seems a bold decision.

The planned polar region landing further increases the mission's complexity, as the spacecraft will need to perform a significant plane change to reach the Moon's polar areas. SpaceX is the prime contractor for the HLS on Artemis II, III and IV, with Blue Origin taking on Artemis V. SpaceX's design is based on its Starship vehicle, which still appears to have a considerable development path ahead. Against this backdrop, a 2027 lunar landing feels very optimistic. Time will tell!

Did anybody watch the 200th Christmas Lecture from the Royal Institute, presented by Dame Dr Maggy Aderin-Pocock? I have always enjoyed these lectures regardless of topic and the age group they are aimed at. There is always something to be learned and long may they continue. I still have clear memories of Carl Sagan presenting in 1977(?), he was one of the great orators on astronomy.

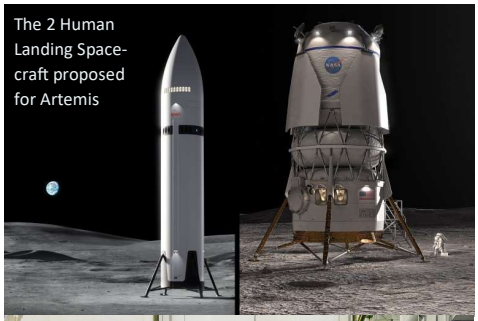
I wonder what lies ahead for 2026 in the astronomy world?

Will T Coronae Borealis, also known as T CrB or the 'Blaze Star' finally explode, I know Andy Burns is watching this star closely. We of course have the total solar eclipse on 12 August with the totality path crossing Spain, Eastern Greenland and Northern Iceland. Anybody planning to visit?

Perhaps a nice bright comet will come our way?

For sure, there is always something new happening in astronomy.

Clear Skies! *Simon*



The 2 Human Landing Spacecraft proposed for Artemis

Orion and Service Module

The New General Catalogue (NGC)

The New General Catalogue (NGC) is one of the most important and enduring catalogues used in astronomy. Compiled by John Louis Emil Dreyer and published in 1888, it brought together observations of nebulae and star clusters made mainly by William and John Herschel.

The NGC contains 7,840 deep-sky objects, including galaxies, star clusters, and nebulae. At the time, many of these objects were simply described as "nebulae", as the true nature of galaxies beyond the Milky Way was not yet understood. Today, familiar objects such as the Double Cluster in Perseus, the Eskimo Nebula, and numerous bright galaxies still carry their NGC designations.

Dreyer later expanded the catalogue with the Index Catalogue (IC), adding over 5,000 more objects. Together, the NGC and IC remain widely used by both amateur and professional astronomers, featuring prominently in star atlases, observing guides, and astronomy software.

Despite some positional errors and duplications, the NGC's historical importance and continued relevance ensure it remains a cornerstone of deep-sky observing more than a century after its publication.

A Review of the Stellalyra 114mm Imaging Newtonian

Stellalyra
M-LRN-D

Matthew Terrell

Society Member

So you want a lightweight “travel” scope. But all the offerings seem rather diminutive?

Well, I might have just the solution from Stellalyra. I’ve been using the scope since May 2025, and here are my thoughts on it.
So who are Stellalyra? They are the First Light Optics Brand of the GSO Telescope company, who have been around for quite a while.

Firstly, its a 114mm Newtonian, at around 450mm focal length, making it around F4 or so. This makes it ideal for cameras running the IMX585 chip, and the even the larger IMX294. Though a coma corrector is recommended, if you can find one!

The construction is solid, with the OTA being carbon fibre, with metal, rotatable, tube rings and a vixen-style, full length dovetail bar.

The secondary mirror holder (spider) is a single piece, all metal unit, as is the primary mirror cell. Consequently this little scope holds collimation very well, and only the smallest of tweaks to collimation are needed when on site.
The inside is not baffled but is painted matte black.

The focuser is a dual speed unit of high quality. It is a 2” rack and pinion type with a 10-1 reduction gear allowing precise focusing even with mittens on. It also has an M57 thread so cameras can be attached directly. The locking screw is handy, but could do with being larger or with a level, as it’s difficult to adjust with cold fingers. There is also a scale to aid in focusing.
The optics are sharp, and within the centre of the field it does produce nice sharp stars. The Airy disc is nice and consistent when the collimation is adjusted..

With all that said, there are a couple little niggles.

It’s a bit of a pain to balance accurately.
The finder shoe is right next to the focuser, so if your guide scope is there, all the weight is on one side of the scope. This puts the moment of inertia way out from the centre of rotation when on an equatorial mount, this leads to more counterweights being needed – the issue compounds when using heavier, TEC cameras.

Typically you would overcome this by rotating the OTA in the scope rings, but with the dovetail being full length, this doesn’t work.
The tube rings do allow rotation, but unfortunately, not really enough. The only solution is to offset the weight of the camera by mounting the guide scope to the dovetail with an adapter from ADM.

The second frustration is the focuser. It’s a great unit, and works very well. However in order for the focuser to be fitted to such a small OTA, it has had to be mounted to a plate, which really eats into the focus distance. The means that things like filter drawers and coma correctors are difficult, if not impossible to focus.

Summary:

Pros:
Lightweight and Compact. Great Focuser.
High quality build.

Cons:
Difficult to balance. Lack of coma corrector options, and focus travel.

Conclusion: A fantastic little telescope for travel and quick setup. A bit of a bargain, with good blend of aperture and portability.

Photos of the Stellalyra 114mm Imaging Newtonian together with some deep sky images taken using it. (Matthew Terrell)

January 2026 Night Sky: Planets

Jupiter — All-Night Beacon

Best Night: Around **10 January**, when Jupiter reaches opposition — directly opposite the Sun from Earth's view — making it visible all night, at its brightest and highest in the sky.

What to Watch For

- Rise: ~sunset (~16:50 GMT)
- Transit (highest): ~midnight
- Set: ~sunrise (~08:50 GMT) These are rough January values referenced from similar local rise/set patterns — Jupiter typically rises shortly after sunset and sets near dawn during opposition weeks.

Observer Notes:
Jupiter will be the **brightest "star" in the night sky**. Even binoculars will reveal its four largest moons; telescopes show cloud banding and, occasionally, the Great Red Spot.

Saturn — Evening Object, Low in the West

Saturn remains visible early in the evening but sets relatively early compared with Jupiter.

- **Visible:** Following **sunset**
- **Set: ~22:30 GMT** (mid-month) Saturn appears low in the **south-west after dusk** and sinks toward the horizon as the night progresses, so the best views are in early evening.

Observer Notes:
Saturn is a decent naked-eye object, but its low altitude means atmospheric turbulence may limit sharp telescopic views of the rings.

Uranus — Binocular Target

Uranus becomes visible after sunset and remains in the sky through the late evening.

Sets: In the early morning (around ~04:30–05:00 GMT), meaning it's above the horizon for much of the night.

Observer Notes:
This distant ice giant requires binoculars or a small telescope. Under dark skies it appears as a tiny **bluish-green point** near the Pleiades/Taurus region.

Neptune — Telescope Only

Neptune is faint and best seen early in the evening, close to Saturn in the sky.

Sets: ~23:00 GMT (approximate; Neptune sets shortly after Saturn).

Observer Notes:
A telescope is recommended for Neptune. It will appear as a small, steady pale blue point of light.

Planet	Best Viewing Window	Approx Rise/Set (London)
Jupiter	All night (best ~10 Jan)	~16:50 – 08:50 GMT (all night)
Saturn	Early evening	Visible after sunset to ~22:30 GMT
Uranus	Evening to early morning	Set ~04:30–05:00 GMT
Neptune	Early evening	Set ~23:00 GMT

Note: Inner planets **Mercury**, **Venus**, and **Mars** are too close to the Sun to be seen in January—they remain hidden in the Sun's glare this month.

South Korean Research Challenges Our Picture of Dark Energy

A New Twist in the Story of the Universe's Expansion

A research team from **Yonsei University in Seoul, South Korea** has published a bold new study suggesting that our universe may **not be accelerating in its expansion** the way the standard cosmological model predicts — and that **dark energy** itself might be evolving over time.

For nearly three decades, astronomers have accepted that the universe is expanding at an ever-increasing rate, driven by a mysterious repulsive force dubbed *dark energy*. This interpretation is based on measurements of distant **Type Ia supernovae** — stellar explosions so bright and consistent that they've been used as "standard candles" to chart cosmic distances.

Key Findings from the Yonsei Study

The South Korean team, led by Professor **Young-Wook Lee**, analyzed data from about **300 galaxies hosting Type Ia supernovae** and found that:

The **brightness of supernovae** depends not only on their distance but also significantly on the **age of their progenitor stars** — a factor previously assumed to be negligible.

Once this *age bias* is accounted for, the new analysis suggests that the cosmic expansion **is no longer accelerating** — and may already be **slowing down**.

The results align with other large-scale datasets — including measurements from cosmic background radiation and galaxy clustering — that also hint dark energy might be changing over time rather than acting as a constant "cosmological constant."

This work was published in *Monthly Notices of the Royal Astronomical Society* and represents a potential *paradigm shift* if confirmed by further observations.

Why This Matters

1. Testing the Standard Model of Cosmology

The current leading model of cosmology — known as **ΛCDM** — includes dark energy as a constant term Λ (Lambda), causing accelerating expansion. But the Yonsei results suggest:

Dark energy might **not be constant** and could **weaken over time**.
The universe's expansion may already be entering a **deceleration phase**.

If correct, this challenges the traditional picture in which the cosmos expands forever at an ever-increasing rate, and could alter predictions about the ultimate fate of the universe.

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2. A New Cosmic Messenger: Star Age Bias

Type Ia supernovae have been foundational tools in cosmology. They played a central role in the 1998 discovery that earned the **2011 Nobel Prize in Physics** for showing the universe's expansion was accelerating.

Cont……

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The Yonsei team's analysis suggests that some of the surprising dimness of distant supernovae — previously interpreted as evidence of acceleration — could instead be due to subtle effects tied to the properties of the exploding star systems themselves.

This insight, if confirmed, would force scientists to rethink how these cosmic mile-markers are used and interpreted.

What's Next in the Investigation

The research team is planning follow-up tests using larger supernova samples and more precise host galaxy data — for example from the upcoming **Vera C. Rubin Observatory**, which will discover many thousands of new distant supernovae.

Continued comparisons with data from other probes — such as measurements of cosmic structure from the **Dark Energy Spectroscopic Instrument (DESI)** — will be essential in determining whether this new picture of dark energy holds up.

What It Could Mean for the Cosmos

At present, this research represents a **provocative and active area of debate** rather than a settled revolution. If dark energy truly changes over time rather than remaining constant, major aspects of cosmology would need revision — including our understanding of how the universe evolved and how it might end.

If dark energy weakens, the universe could eventually slow its expansion — possibly even recollapse in a scenario known as a *Big Crunch* (although that outcome would be far in the distant future).

If dark energy changes form, it might point to new physics beyond the current cosmological framework.

Aspect	Traditional View	New Korean Study Suggests
Expansion Rate	Accelerating	Possibly *decelerating* now
Dark Energy	Constant "cosmological constant"	Evolving over time
Supernova Use	Unbiased standard candles	Brightness depends on progenitor age
Implications	Eternal expansion	Cosmic fate could be very different

Constellation Focus — Cancer

Cancer the Crab is one of the twelve constellations of the zodiac and lies along the path of the ecliptic, the apparent route taken by the Sun, Moon and planets through the sky. Although Cancer is one of the faintest zodiac constellations, it is rich in astronomical interest and rewards patient observers, especially under dark skies.

Cancer occupies a region of sky between the more obvious constellations **Gemini** to the west and **Leo** to the east, with **Hydra** stretching below it. From the UK, Cancer is best placed for observation during the late winter and spring months, culminating high in the south around February and March.

Mythology and history

In Greek mythology, Cancer represents the crab sent by Hera to distract Heracles during his battle with the Hydra. The crab was swiftly crushed, but Hera placed it among the stars in gratitude for its loyalty. Historically, Cancer was also significant because, in ancient times, the Sun reached its northernmost point in this constellation at the June solstice—hence the name **Tropic of Cancer**, even though precession has since shifted the solstice into Taurus.

Stars of Cancer

Cancer contains no bright stars, which partly explains why it can be challenging to spot:

- **Altarf (Beta Cancri)** is the brightest star in Cancer at magnitude +3.5, an orange giant around 290 light-years away.
- **Acubens (Alpha Cancri)** is a multiple star system marking the crab's southern claw.
- **Asellus Borealis (Gamma Cancri)** and **Asellus Australis (Delta Cancri)** flank one of Cancer's most famous objects, the Beehive Cluster.

Deep-sky highlights

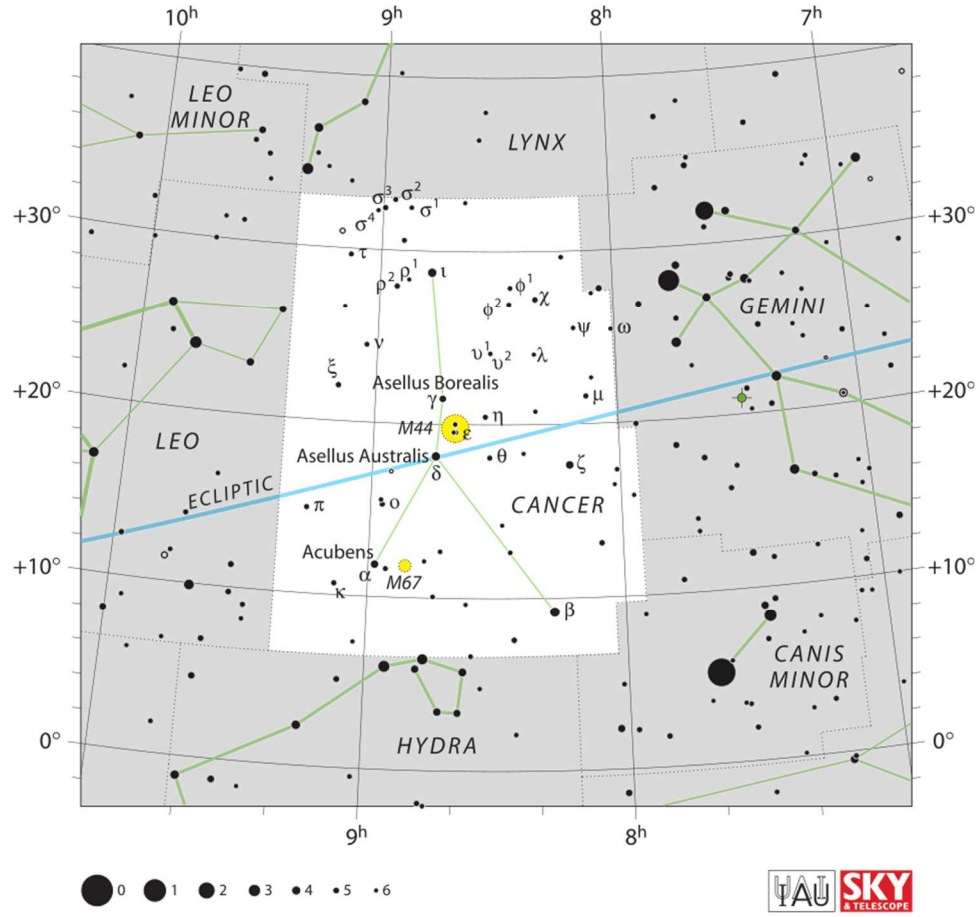
Despite its faint appearance, Cancer hosts one of the finest naked-eye star clusters in the sky:

- **Messier 44 – the Beehive Cluster (Praesepe)** Visible to the naked eye from dark sites as a misty patch, M44 is stunning in binoculars or a small telescope, revealing dozens of sparkling stars. It lies about 600 light-years away and is one of the nearest open clusters to Earth.
- **Messier 67** A much older and more compact open cluster, M67 is best seen with binoculars or a telescope and is of great interest to astronomers studying stellar evolution.

Observing tips

Because Cancer's stars are faint, light pollution can make it difficult to recognise. Use the bright stars **Castor and Pollux** in Gemini and **Regulus** in Leo as guides, then sweep the region between them with binoculars to locate the Beehive Cluster—often the easiest way to "find" Cancer.

Constellation Focus — Cancer



Messier 44

Members Gallery

30 December 2025

NGC 2264, the Cone nebula with Christmas tree cluster and M1 data combined with data from October.

Steve Allen

20 December 2025

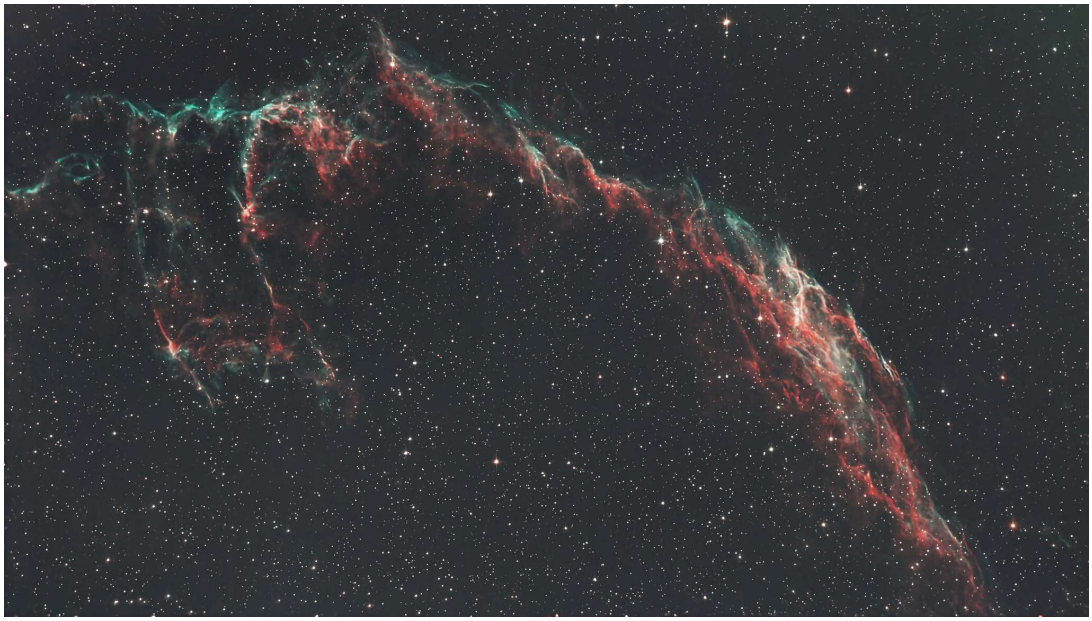
M81 and M82

Steve Allen

19 December 2025

Horsehead Nebula

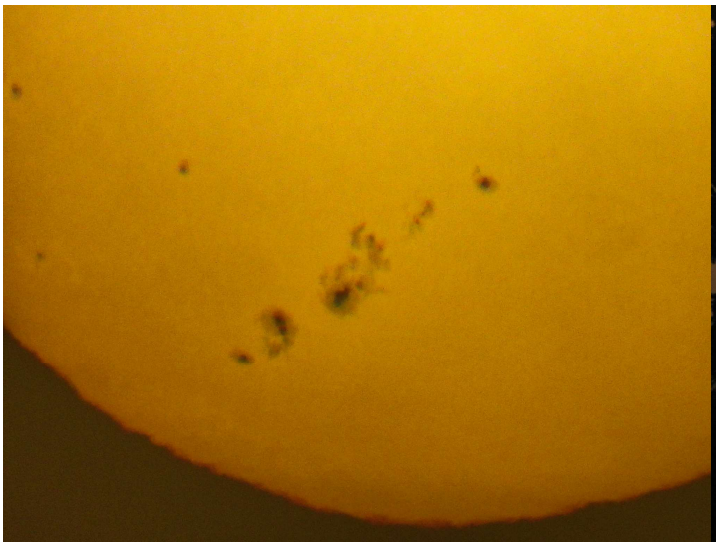
Matthew Terrell



4 December 2025
NGC6992, Eastern Veil Nebula.

Matthew Terrell

3 December 2025
Sunrise this morning with just enough mist to act as a filter... but ONLY using a mirrorless digital camera (P1000 Nikon) exposure knocked back to -2 stops from auto.



2025—2026 Observing Schedule

Wiltshire Astronomical Society Planned Observing Evenings 2025-2026 Season							
Month	**Day**	**Date**	**Month**	**Year**		**Event Attempt**	**Time**
Sep-25	**Friday**	**19th**	**September**	**2025**		**1st Observing**	**20:30**
	What To See!	Saturn close to opposition and very bright. Rings almost Edge on.					
		Neptune almost at opposition and a good time to try to see it.					
	Friday	**26th**	**September**	**2025**		**2nd Observing**	**20:30**
	What To See!	Still a good time to catch Saturn & Neptune					
Oct-25	**Friday**	**17th**	**October**	**2025**		**1st Observing**	**20:00**
	What To See!	Orionid Metereor Shower					
	Friday	**24th**	**October**	**2025**		**2nd Observing**	**20:00**
	What To See!	Orionid Meteor Shower					
Nov-25	**Friday**	**14th**	**November**	**2025**		**1st Observing**	**19:30**
	What To See!	Leonid Metereor Shower					
		Saturns Rings almost Edge on					
	Friday	**21st**	**November**	**2025**		**2nd Observing**	**19:30**
	What To See!	Saturns Rings almost Edge on					
		Uranus at Opposition just south of the Pleiades					
		Leonid Meteor Shower					
Dec-25	**Friday**	**12th**	**December**	**2025**		**1st Observing**	**19:00**
	What To See!	Orionid Metereor Shower					
	Friday	**19th**	**December**	**2025**		**2nd Observing**	**19:00**
	What To See!	Ursid Meteor Shower					
Jan-26	**Friday**	**9th**	**January**	**2026**		**1st Observing**	**19:00**
	What To See!	Jupiter at Opposition in Gemini					
		Comet 24P/Schaumasse obsevable after 01:30 (10th)					
	Friday	**16th**	**January**	**2026**		**2nd Observing**	**19:00**
	What To See!	Jupiter and Saturn still on display.					
Feb-26	**Friday**	**13th**	**February**	**2026**		**1st Observing**	**19:30**
	Friday	**20th**	**February**	**2026**		**2nd Observing**	**19:30**
Mar-26	**Friday**	**13th**	**March**	**2026**		**1st Observing**	**20:00**
	Friday	**20th**	**March**	**2026**		**2nd Observing**	**20:00**
Apr-26	**Friday**	**10th**	**April**	**2026**		**1st Observing**	**20:00**
	Friday	**17th**	**April**	**2026**		**2nd Observing**	**20:30**
	What To See!	Lyrid Meteor Shower					
May-26	**Friday**	**8th**	**May**	**2026**		**1st Observing**	**21:00**
	What To See!	Eta Aquarids Meteor Shower					
	Friday	**15th**	**May**	**2026**		**2nd Observing**	**21:00**

Version: 1 - Published 2025-07-30

Wiltshire AS Meeting overview 2025/26

All meetings convene from 19.15 for a 19.30 start

MONTH	TITLE	Speaker	ACTUAL DATE
Sep-25	Adventures in Infrared	Dr Jane Clark	2nd September 2025
Oct-25	The Colourful Lives of Stars - What are stars?	Michael Barratt FRAS	7th October 2025
Nov-25	Black Holes, Dark Matter and Dark Energy	Peter Allan	4th November 2025
Dec-25	Christmas Quiz	N/A	2nd December 2025
Jan-26	Filton in Space - 65 years and Counting	Terry Ransome	6th January 2026
Feb-26	John Dartnell	Capturing Totality: Tips and Techniques	3rd February 2026
Mar-26	Observing with Binoculars	Mark Radice	3rd March 2026
Apr-26	Extinct Constellations	Nicky Fleet	7th April 2026
May-26	~~Can Life Exist in the Icy Moons of Our Solar System?~~	~~Bernard Henin~~	5th May 2026
Jun-26	Members Talks & AGM	Various	2nd June 2026

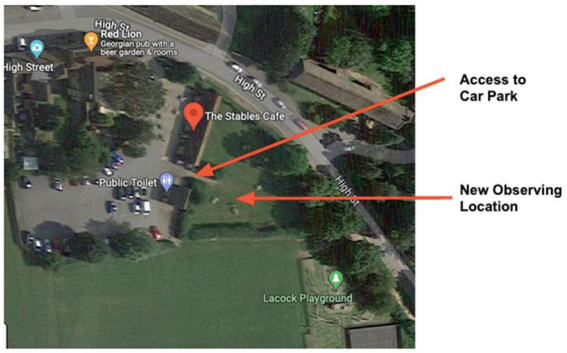
Wiltshire Astronomical Society Contact Info:

Chair:	Simon Barnes
Newsletter:	Simon Barnes
Treasurer and Membership:	Sam Franklin
Speaker secretary:	**Position Vacant**
Observing Sessions coordinators:	Chris Brooks, Jon Gale,
Web & IT coordinator:	Sam Franklin
PR and Design:	Tracey Kelly

Contact the Society here:

Email:	contact@wasnet.org.uk
Website url:	https://wasnet.org.uk/
Public Facebook Page	https://www.facebook.com/Wiltshire-Astronomical-Society-154077261327030/
Members only Facebook group:	https://www.facebook.com/groups/wiltshire.astro.society/
Committee Page:	https://wasnet.org.uk/committee/
Observing Sessions Location:	The observing area is located in the Picnic area to the side of the Red Lion Pub (Lacock) car park Postcode: SN15 2LQ

what3words = airbag.shudders.losing



Hall Meeting Location:	Pewsham Community Centre, Lodge Road, Pewsham Chippenham, SN15 3SY

What3words = boat.perky.ticket