

Wiltshire Astronomical Society

WAS News

April 2026



This Month We Welcome.....

Nicky Fleet

Extinct Constellations

Nicky first caught the astronomy bug at primary school when her head teacher gave them some roneoed stencils of some of the better-known constellations showing the names of the stars and a bit about the legends associated with them. She also remembers being shepherded into the school 'annex' to watch one of the moon landings on the TV there. She was lucky to grow up in a village with little light pollution and spent many frustrating hours trying to identify constellations from the tiny maps in my Observer's Book of Astronomy by Patrick Moore. Once she left school, she started buying astronomy magazines with better sky charts, joined an astronomy society and learned her way around the night sky. She is mostly a visual observer, but is also interested in pretty much anything to do with astronomy and the natural world. She is currently a member of Newbury and Chipping Norton societies as well as the BAA.



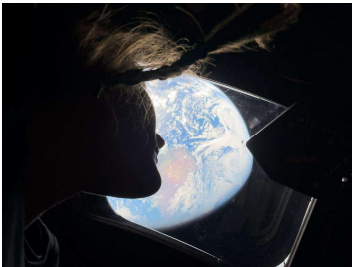
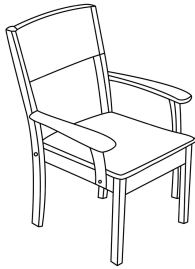
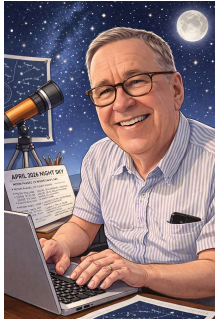
Inside this issue

Comments from the Chair	2
Artemis II Photod.....	2
April Night Sky.....	3
Members Gallery.....	4
Apollo, Orion and Silicon Valley....	7
Observing Sessions Schedule.....	12
Meeting Schedule 25/26.....	13
Contact Us.....	14

Special points of interest

- This months speaker (1)
- Apollo, Orion and Silicon Valley (2)
- Observing Sessions Schedule (11)
- Meeting Schedule (12)

Comments from the Chair



Whilst I'm delighted to see the success of Artemis II, I can't help missing the atmosphere of the Apollo era—the commentary, the BBC coverage, and that unmistakable late-60s/early-70s vibe. Perhaps it's nostalgia creeping in, but there was something uniquely compelling about that period. Even so, it's exciting to witness a return to lunar exploration, and one can only hope that funding remains steady enough to carry the programme through.

What we do have today is an extraordinary wealth of information for those of us watching from Earth. The continuous audio and video streams from the Integrity spacecraft are a reminder of just how far technology has come.

Some people have tried to draw comparisons with Apollo 8's Christmas 1968 mission, which completed ten lunar orbits. Personally, I think Apollo 13 is the closer parallel—particularly with its use of a free-return trajectory after the oxygen tank rupture. And of course, Apollo 13 held the record for the furthest distance humans had travelled from Earth; Artemis II will soon take that title.

Looking ahead, 2028 remains the target year for a crewed lunar landing. The big question is when the lander will actually be completed, and by which contractor. Meeting that schedule will demand exceptionally tight project management from NASA and whoever ultimately builds the vehicle.

After what felt like an eternity of cloud, last month finally brought some clear skies, giving both visual observers and imagers a chance to get out and enjoy themselves. This month's membersgallery reflects that, with a healthy number of new images. On that note, it might be worth considering a dedicated gallery page—perhaps on Flickr or even on our own website. It would be good to hear what members think.

Our planned observing session on 20 March went ahead despite the 50/50 forecast. Conditions weren't perfect, but some observing was possible. An ad-hoc session the following evening reportedly enjoyed much better seeing. I don't have a write-up from those who attended, but perhaps someone could share a few words at the meeting.

Our next observing session is scheduled for 10 April, weather permitting. Chris will be there but will need to leave early. If the session is postponed to the backup date of the 17th, Chris won't be available at all. We're therefore looking for one or more volunteers to help lead the session—greeting attendees, coordinating activities, and generally keeping things running smoothly. If you're able to assist, please let a committee member know. Your help is always greatly appreciated.

I've added some Artemis images to the left of this page, along with the Lunar Targeting Package you may have seen during the live NASA broadcast. I'm sure the crew will return with some remarkable photographs, though unfortunately they won't be available in time for this newsletter's publication.

It was very sad to hear of the passing of Owen Brazell in a car accident. He was one of our past speakers and an experienced deep sky observer and key person within the Webb Society. He will be greatly missed in the amateur astronomy community.

Clear Skies!

Simon

APRIL 2026 NIGHT SKY

(51.37° N)

Magnitudes, Observing Times & Moon Phases (BST)

MOON PHASES

Last Quarter — 8 April

New Moon — 16 April (best dark skies)

First Quarter — 23 April

Full Moon — 30 April (bright skies)

Best dark-sky period: 12–20 April

PLANETS

Jupiter (–2.0)

Visible in the west after sunset

Early April: 20:45–23:15

Late April: ~21:00–22:15

Mercury

(–0.5 to +1.5)

Low in the west, best 1–10 April

20:20–21:10

Mars

(+1.1 to +0.9)

Low in the southeast before dawn

04:15–05:30

Saturn

(+1.1)

Very low in morning twilight

04:45–05:35 (challenging)

Venus (–3.8)

Not observable

KEY CONSTELLATIONS & OBJECTS

LEO

(well placed by 21:15)

Regulus +1.4

M65 (+9.3), M66 (+8.9), NGC 3628 (+9.5) — Leo Triplet

NGC 2903 (+9.0)

Best: 21:30–01:00

VIRGO

(best after 23:00)

Spica +1.0

M87 (+8.6), M84 (+9.1), M86 (+8.9), M49 (+8.4)

Best: 23:00–03:00

COMA BERENICES

Melotte 111 (~+1.8)

M64 (+8.5) — Black Eye Galaxy

NGC 4565 (+9.6)

Best: 22:00–02:30

URSA MAJOR (circumpolar)

M81 (+6.9), M82 (+8.4), M51 (+8.4)

Best: 21:00–02:00

EARLY EVENING (WINTER OBJECTS)

(Visible early April only)

M42 (+4.0) — Orion Nebula

M45 (+1.6) — Pleiades

Betelgeuse (~+0.5), Rigel (+0.1)

Best: 20:30–22:00

OBSERVING CONDITIONS

Sunset: ~19:45 → 20:30

Astronomical Darkness:

Early April: ~22:20 – 04:10

Late April: ~23:20 – 03:00

Best observing window:

Early April: 22:00–01:30

Late April: 23:00–01:00

MOON IMPACT

1–7 April: Waning Moon — darker after midnight

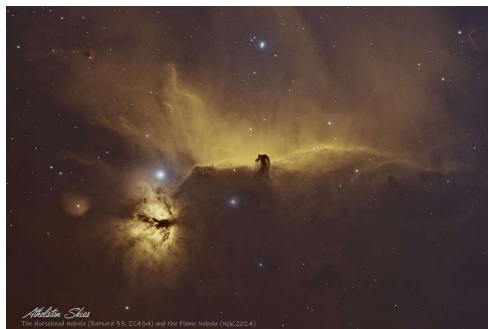
8–15 April: Good dark evenings

16–22 April: Excellent (new Moon period)

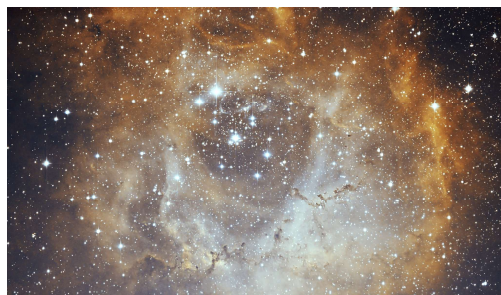
23–29 April: Increasing moonlight

30 April: Full Moon — poor for deep-sky

Members Gallery



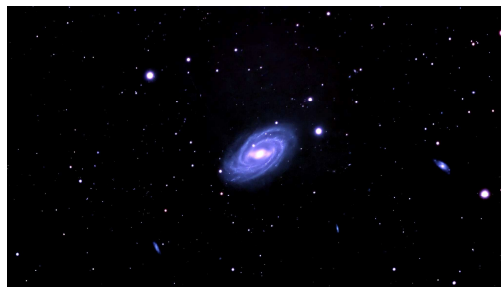
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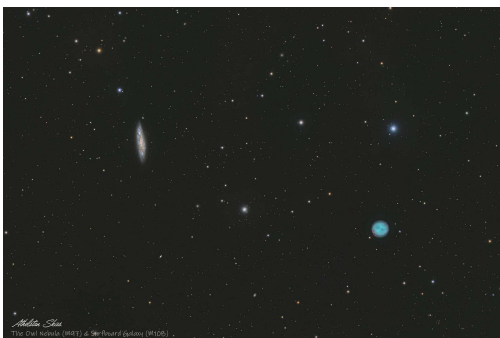
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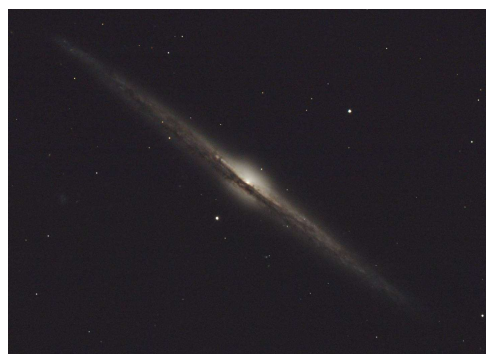
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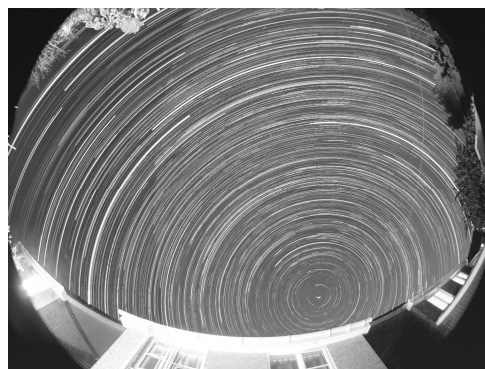
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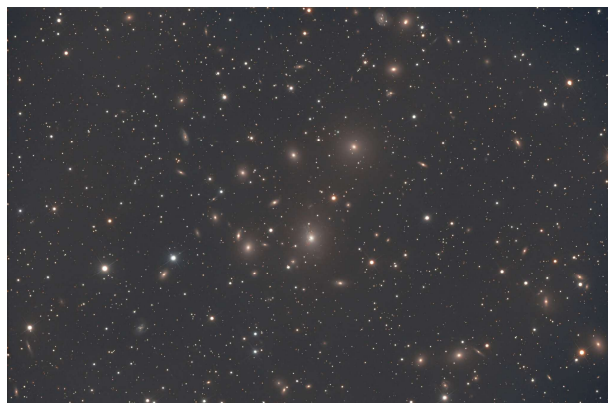
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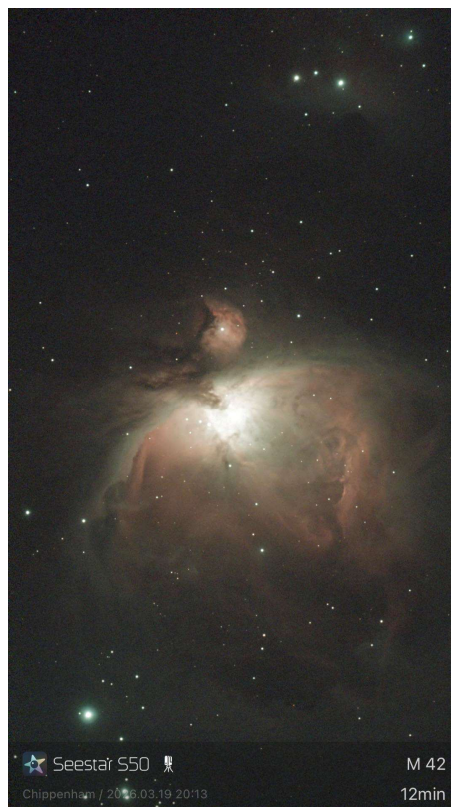
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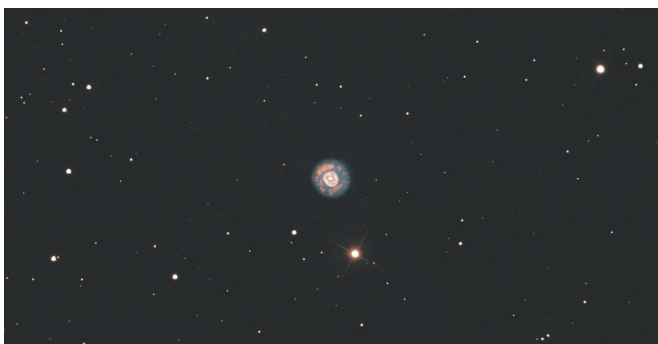


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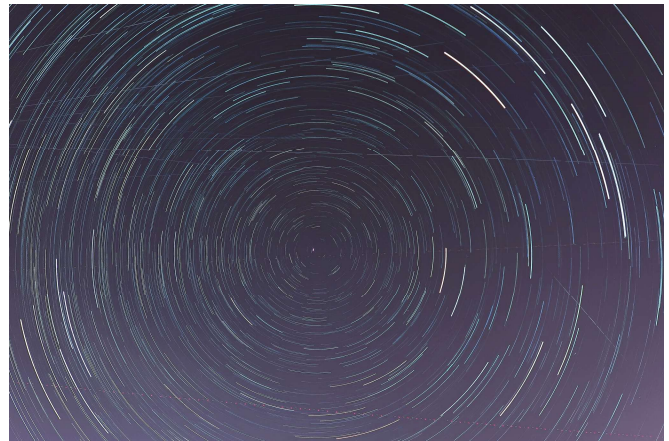
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Images List

- | | | | |
|-----|-----------------------------|---|-----------------|
| 1. | Horsehead Nebula Orion | - | Paul Sheard |
| 2. | Full Moon | - | Andy Burns |
| 3. | Hickson 44 Galaxy Group Leo | - | Paul Sheard |
| 4. | Owl Nebula Ursa Major | - | Paul Sheard |
| 5. | NGC2244 Monoceros | - | Matthew Terrell |
| 6. | M109 Ursa Major | - | Steve Allen |
| 7. | M81 Ursa Major | - | Steve Allen |
| 8. | NGC4565 Coma Berenices | - | Matthew Terrell |
| 10. | NGC2244 Monoceros | - | Paul Sheard |
| 11. | Leo Triplet | - | Paul Sheard |
| 12. | Star Trails | - | Matthew Terrell |
| 13. | NGC4565 Coma Berenices | - | Matthew Terrell |
| 14. | M42 Orion | - | Andy Burns |
| 15. | M63 Canes Venatici | - | Steve Allen |
| 16. | M1 Crab Nebula Taurus | - | Andy Burns |
| 17. | M51 Canes Venatici | - | Matthew Terrell |
| 18. | Star Trails | - | Andy Burns |

Return to the Moon



Apollo, Orion and Silicon Valley

By Ilene Wolff 05.18.2023 EE Times

The men who designed and crafted the first practical integrated circuit (IC), the type used in the computers to guide the Apollo spacecraft that made the first U.S. moon landing, were also the unintentional fathers of Silicon Valley.

“These are the people that changed the world,” David A. Laws, semiconductor curator of the Computer History Museum, told EE Times. “Everybody knew them. They were heroes in Silicon Valley.”

The Apollo contract was not the only reason for the transformation of the valley, but it was a major factor, according to an article on the Smithsonian’s National Air and Space Museum’s website.

The ICs and software used in the computers used in the Apollo missions had a limited job compared with the computers used in NASA’s current Artemis lunar missions, which use the Orion spacecraft.

“In Apollo, they had a lot of switches that took care of most of their functions, and they only used the computers for that little guidance and navigation control while they were landing on the moon,” Matt Lemke, NASA’s manager for Orion avionics, power and software, told EE Times. “In Orion today, everything is computer-controlled, with very few switches [to be used] just in the case of extreme emergencies where they have to bypass a computer.”

There are other differences.

Orion is equipped with four computers made by Honeywell and equipped with IBM PowerPC 750X single-core processors. Its software is written by Lockheed Martin.

All four computers “run the same code, and we check them bit for bit to make sure their outputs are good,” Lemke said. “If the outputs are ever different, that computer ‘fails silent.’ So it quits transmitting, and that way, it never puts anything wrong out onto the vehicle’s bus.”

Orion withstood two radiation hits during the Artemis 1 unmanned lunar orbit mission in 2022, and one computer failed silent, Lemke said. It reset itself, and 20 seconds later, it rejoined the other computers.

The computers are the same type as those used in Boeing’s 787 aircraft, but Orion’s hardware is ruggedized for vibration, thermal and shock events. Some internal parts have been switched out for those whose materials have better radiation tolerance to withstand the effects of traveling through the Van Allen belt and deep space.

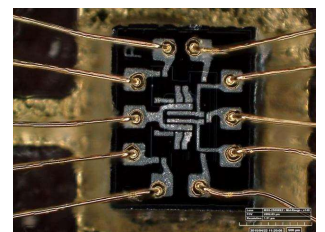
Also, the code for the computers’ operating system is partitioned for different systems like propulsion, navigation and life support—so that a failure in one part doesn’t affect other functions.

“They all think they’re flying the vehicle: Each one thinks they’re in charge,” Lemke said. “If any one has an upset for whatever reason, it fails silent, and the others that thought they were flying the vehicle, they fly the vehicle.”

MIT, Raytheon part of Apollo story

Even though Honeywell, IBM and Lockheed, one of Lockheed Martin’s predecessor companies, all existed at the time of Apollo, its Apollo Guidance Computers (AGCs) were designed by the Massachusetts Institute of Technology (MIT) and built by Raytheon. NASA commissioned two versions: The Block II device would benefit technologically from lessons learned during the use of the Block I computer in early unmanned flights.

Microscopic view of the inside of a silicon chip used in Apollo, consisting of six transistors and eight resistors (Source: Smithsonian’s National Air and Space Museum)



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This is what happened, according to an article that Laws, a storyteller and former Fairchild Semiconductor marketing employee, wrote for the Computer History Museum's website:

The AGCs (Abort Guidance Computers) used ICs, or chips, created and designed at Fairchild. Fairchild licensed the design to Philco-Ford, which produced most of the 800,000 units in the Block II computers used in all manned space missions, including the first moon landing in 1969.

A Block I computer, which had been reduced to the allotted two cubic feet from multiple refrigerator-sized cabinets, flew on the unmanned Apollo 4 and 6 missions.

Block II used 2,756 flat-pack chips with 5,530 logic gates implemented with 16,536 transistors. Many other silicon chips, including thousands of discrete transistors in other pieces of equipment, flew on Apollo 11. Notable examples include analog ICs built by Westinghouse to control the camera that sent TV signals to Earth of pioneering astronaut Neil Armstrong taking his "one small step for man, one giant leap for mankind."

Two AGCs—one in the command module, the other in the lunar lander—flew with zero failures in nine lunar and five Earth-orbital missions.

Confounding critics who advised that ICs were unproven and too risky for such an important project, the computer gained the reputation of being the most reliable piece of electronic equipment on the spacecraft.

Far-flung influences

In 1971, two years after the first lunar landing in 1969, the term "Silicon Valley" appeared in print, possibly for the first time, according to an obituary for the writer credited with coining it.

In addition, the AGC project for the Apollo missions pioneered miniaturized electronics by shrinking a room-sized computer to the size of a briefcase, according to Laws's article. It also made a huge leap forward in software development: For the first time, a software program was used in real time to control actions that could impact the lives of humans.

Humans also routinely benefit from developments that arose from the Apollo program just about every time they take a commercial flight.

"Think about the digital avionics that took place by proving you could safely fly a spacecraft to the moon ... and actually get back to Earth safely," said Paul Kostek, advisory systems engineer for Air Direct Solutions. "That whole concept proves that you could put digital avionics on an airplane and safely fly that airplane. Airplanes now have millions and millions of lines of code in them."

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 Meteor 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 Meteor 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 Meteor 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 observable 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	Twinkle, Twinkle Little Star, How Can I Determine What You Are?	Ken Whight	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/>

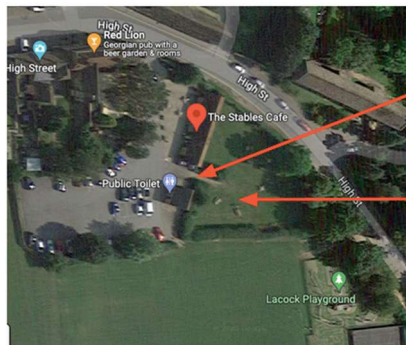
Public Facebook Page <https://www.facebook.com/Wiltshire-Astronomical-Society-154077261327030/>

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

