

Federation of Astronomical Societies



Editor: Michael Bryce

Newsletter

No 146: October 2025

fedastro.org.uk

Note: The FAS Council Reserves the Right to publish articles, events and reports submitted to the FAS Newsletter. Any content published in the FAS Newsletter from a Member of an FAS Society does not necessarily reflect the opinions or values of the said Society or that of the FAS.



A collage of the post-totality phase of the Lunar Eclipse of 7 September 2025. Clouds obscured totality but myself and a few other members of Loughton AS were able to observe (& image) the latter part of the event from Chingford Plain, on the border of Epping Forest. Images taken with SkyWatcher 72ED & Canon EOS250D.

Nick Williams, Loughton Astronomical Society

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President's Spot:

"Look at things in a different way"

Clare Lauwerys

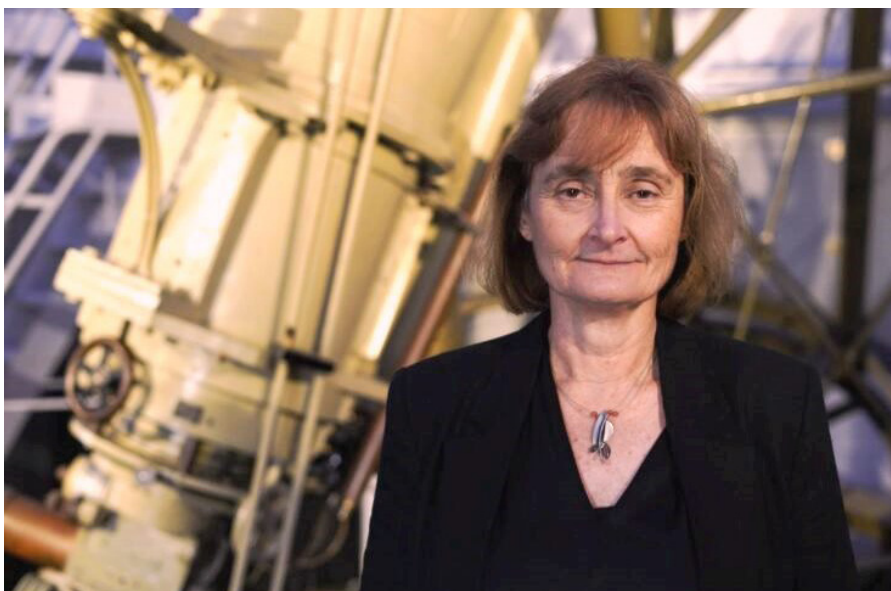


I am sure I am not the only person who was delighted when it was announced that Prof Michele Dougherty had been appointed as Astronomer Royal. At the FAS Convention in May, Lord Martin Rees explained that he had stepped down as Astronomer Royal a year or so beforehand. I do wonder if he knew then who was going to be next one, or at least who was on the short list as it was just two months later that Michele's appointment was announced.

I'm in two minds however about the "First woman" headline that accompanied the announcement. True, she was the first woman since the position was created in 1675, but it did gloss over the fact that Professor Catherine Heymans was appointed as The Astronomer Royal for Scotland in 2021 and was the first woman to hold that role since the position was created in 1834. Incidentally, because the question just crossed my mind, there has never been an Astronomer Royal for Wales. There used to be a Royal Astronomer of Ireland. The position ceased to exist in 1921.

But back to Prof Dougherty's appointment. On reflection, I think the headline is ok. In a radio interview she said "I've always wanted to make sure that if I'm ever selected for a role, it's because of what I do, and not because I'm female. Particularly for young girls, seeing someone who looks like them in a role like this will potentially allow them to dream that they might be able to do something like this in the future. So if it makes just a few people think: 'Oh maybe I can do something that looks a bit scary,' then I would have achieved one of the things I'd like to achieve."

The "seeing someone who looks like them" really resonated. Earlier this year I was helping at outreach with some Brownies. It's not something I do often but I was stepping in to help due



to illness. Anyway, as part of my talk I pointed out how certain celestial bodies in had been discovered due to maths and that maths was cool. My Dad was maths teacher and so maths was always cool to me but most of the Brownies seemed a little surprised at my assertion. But at the end of the session one of the girls came to chat to me and said she wanted to be an astronomer, but she didn't think she was good enough at maths. I asked if she enjoyed it and she did, so I assured her that she'd be fine. She went away with a smile. I do so hope she saw the news about Prof Dougherty and that gave her even more hope that she could follow her dreams.

Now regular readers will know how I link the topics in my President's Spots. Sometimes it's an accident but this time it's with intent. Despite UK astronomy having two female Astronomers Royal and the BAA and FAS having female leads (the RAS currently has a male president but they've had four female presidents since the first president of William Herschel in 1821 so they aren't doing that badly!) if you look around there's still a lack of representation. If you are looking for pictures of people taking part in astronomy, especially if you ask

Image above: Prof Michele Dougherty poses in front of the 28 inch refractor at the Old Royal Greenwich Observatory

Credit: Amanda Clark/Cabinet Office

AI to create one (the evils of using AI can be addressed at another time) you will end up with most images having just men. Even asking AI to create an image of people defaulted to men unless I specified woman. And that's because AI will reflect what it sees. That's why I was so keen to run the webinar on Equality, Diversity and Inclusion. It's a huge topic and the one hour (well we spilled over) only scratch the surface. If you weren't there and haven't watched the video yet you can find it on YouTube at <https://youtu.be/GSzYXNyMrhc>. Judging from the reactions the reactions on the day, I can safely say it will make you look at things in a slightly different way.

Clare
FAS President
president@fedasrto.org.uk



Stratford-upon-Avon Astronomical Society

The Stratford-upon-Avon Astronomical Society meets every first and third Tuesday at 8pm (doors open at 7.30pm) at Alderminster Village Hall. Everyone is welcome, especially beginners and those wanting to learn more. The first Tuesday is a Club Night, in October that will be on **7 October**. The speaker on the third **Tuesday 21 October 2025 will be Steve Warbis, from the Macclesfield Astronomical Society, with a talk called "Messier objects and how they map the Milky Way"**. For November the Club Night is Tuesday 4 November, the Speaker on **Tuesday 18 November is Simon Toogood with a talk entitled "Research on the atmospheres of the Giant Planets using the JWST"**

Please note that the speakers usually start quite promptly at 8pm.

<http://astro.org.uk/main/index.php>

Gemini and Mercury Remastered Exhibition

After the huge success of the Apollo Remastered book and exhibition hosted at Jodrell Bank in 2022, we are delighted to welcome back Andy Saunders for the release of the 'prequel' – Gemini and Mercury Remastered – and to host the very first exhibition of this work.

Gemini and Mercury Remastered is a visual odyssey that brings to life the pivotal, intimate moments from the very dawn of human space exploration, during projects Mercury and Gemini. These early human space explorers also took the first, and still some of the finest, photographs of Earth ever captured on film.

For over half a century, almost every image publicly available was produced from a lower-quality copy of these originals. Until now...

Andy Saunders is a bestselling British author, science writer, and one of the world's foremost experts of NASA digital restoration. He has applied painstaking care and cutting-edge enhancement techniques to scans of the original film, creating the highest quality photographs ever produced from this pivotal era in human history.

Coinciding with the 60th anniversaries of NASA's Gemini missions, Saunders presents an exhibition of remastered photographs. They are a striking tribute to the visionaries who dared to dream beyond our world, a timely reminder of the stunning beauty of our home planet, and a testament to the enduring power of exploration.

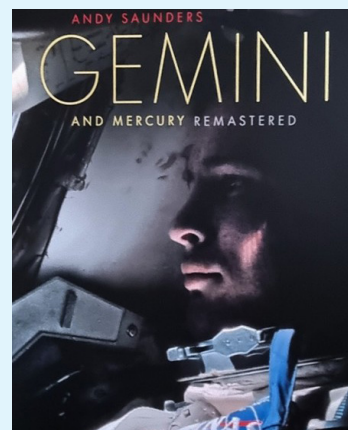
2025 also marks 80 years since the founding of Jodrell Bank, and this exhibition will open our landmark Heritage Season: a series of events celebrating the Observatory's incredible legacy in science, innovation, and cultural history.

The Exhibition runs from 6 September 2025 – 4 January 2026

Free with admission to Jodrell Bank Science Centre

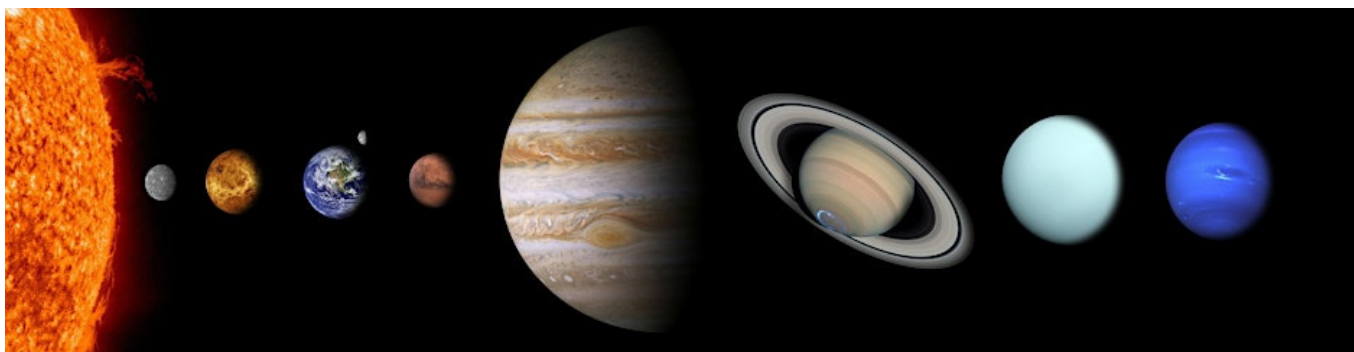
<https://www.jodrellbank.net/visit/>

See the Liverpool AS report about their visit on page 18





FAS Webinar: The Search for Planet 9



Saturday, 25 October at 5pm UTC
Main Speaker - Mike Brown

Professor of Planetary Astronomy at the California Institute of Technology

Back in 1930, Pluto was discovered by Clyde Tombaugh and it became the solar system's 9th planet. However in 2005, Mike Brown led a team that discovered the similarly-sized Eris. With this and several other objects discovered out beyond Neptune, the question was raised as to whether some of these should also be recognised as planets.

The result was a vote at the 2006 General Assembly of the International Astronomical Union on a definition of a planet. This led to Pluto being re-designated as a Dwarf Planet, bringing the solar system down to 8 planets.

In January 2016, Brown and fellow Caltech astronomer, Konstantin Batygin, proposed the existence of Planet Nine as a major planet between the size of Earth and Neptune.

Having led the teams responsible for the discoveries of so many distant objects, including Eris, Haumea, Makemake and Quaoar, plus others that should be regarded as Dwarf Planets, such as Sedna, Orcus, Gonggong, Mani and Salacia, no-one can deny that Mike Brown is the most appropriate person to cover the subject of the search for Planet 9.

We are therefore delighted to have him as a speaker on this subject. As Mike is based in California, a start time of 5pm UTC will be 9am PDT for him.

Jerry Stone will give an introductory presentation of about 20 minutes. This will cover the ancient views of the night sky, with the naked-eye planets, then the discoveries of Uranus, Neptune and Pluto, before moving on to briefly mention recent discoveries and the IAU's actions to deal with the increasing number of objects being found.

Mike will then bring us up to date with the possibly of Planet 9.

Places for this event can be booked online at just £3 for members of Federation of Astronomical Societies and £6 for the public. (Eventbrite fees apply)

To get the reduced price, you will need to use the correct promo code – I'm sure you can work out which is for which event!

Tickets need to be purchased on Eventbrite. You can find both events here: <https://www.eventbrite.com/cc/fas-webinars-on-pluto-and-dwarf-planets-4646773>



FAS Webinar: New Horizons and the Exploration of Pluto



Saturday, 15 November at 5pm UTC
Main Speaker - Alan Stern

Principal investigator of the New Horizons mission to Pluto

Between 1979 and 1989, a rare planetary alignment allowed the Voyager missions to visit the outer planets Jupiter, Saturn, Uranus and Neptune, but not Pluto.

In 1989, Alan Stern was a member of a team that suggested a spaceflight to Pluto. This became the New Horizons mission, which was launched in January 2006, and took 9½ years to reach its distant target.

The flyby through the Pluto system with its five moons completely transformed our knowledge of Pluto, with staggeringly detailed views.

Alan was the Principal Investigator for New Horizons, and is therefore the best person to speak about this unique mission of space exploration, including its results to date as well as its ongoing plans.

We are therefore delighted for him to be our main speaker for our second event. Alan is based in Colorado, so the start time of 5pm UTC will be 11am MST for him.

Jerry Stone will give an introductory presentation of about 20 minutes. He will look in detail at the IAU's official definition of a planet, and as a result give a definitive answer to the question of Pluto's status.

Alan will then tell us about the New Horizons mission.

You may like to submit questions in advance by writing to Jerry at meetings@fedastro.org.uk by 8 November so that they can be sorted and collated.

Places for this event can be booked online at just £3 for members of Federation of Astronomical Societies and £6 for the public. (Eventbrite fees apply)

To get the reduced price, you will need to use the correct promo code – I'm sure you can work out which is for which event!

Tickets need to be purchased on Eventbrite. You can find both events here: <https://www.eventbrite.com/cc/fas-webinars-on-pluto-and-dwarf-planets-4646773>

Federation of Astronomical Societies
<https://fedastro.org.uk>

Herstmonceux Astronomy Festival 2025

Dave Faulkner
Farnham Astronomical Society

At the end of August my son Alfie and I had the pleasure of attending the Herstmonceux Astronomy Festival in East Sussex. We decided to camp for the weekend giving us the full festival experience. Arriving on the Friday afternoon we registered and got our wrist bands, before pitching our tent and enjoying some food ahead of some serious astronomy.

The weather forecast was clear for the Friday night becoming more unsettled on the Saturday. With this in mind we planned to capitalize on the Friday observing and use the bad weather to recover.

The festival opened with an engaging talk from Dr Darril Baskill of the University of Sussex on **Binary Stars**. This was followed by an opportunity to observe different targets during the course of the evening. Highlights included the drama of being in dome E as the floor rose and the dome opened to some great views of the Moon. We also had chance to see Saturn, Andromeda and talk to one of the local astronomical societies about smart scopes. Our late night finished with some observations of the milky way back at the tent using our own equipment.

Saturday morning started with an impromptu solar observing opportunity with some other campers. Lots of solar activity with sun spots and solar flares clearly visible. During the course of the day we attended 2 talks;

Mapping the Universe: The Past, Present, and Future of Sky Surveys by Behnood Bandi and Introduction to Astronomical Image Processing by Nik Szymanek. If you haven't seen any of Nik's images they are stunning and

it was great to be in one of the telescope domes for this talk.

Unfortunately we didn't have any luck in the Saturday raffle, but we made up for this with a great meal in a local pub followed by a visit to the planetarium.

Saturday night was VERY stormy which meant we were a bit sleepy for the 1st talk on Sunday we attended, entitled **Living with a star - the many faces of our Sun** by Prof. Sarah Matthews, UCL Mullard Space Science Lab. We spent some of the day absorbing the science and history of the observatory discovery centre. The final talk of the festival was **Space Hazards** by Dr Ryan French, National Solar Observatory Boulder, Colorado. This was definitely a highlight of the festival and enjoyed by both of us.

All things considered the weekend was a fantastic success. I would thoroughly recommend it to families and individuals alike. There is a good balance of entertainment, science and socialising. Also more going on than you can actually cover, so you are left with the appetite to return next year.

Just when we thought it was over there was another surprise. Last event of the weekend was the grand prize raffle draw... and we won! 2nd prize a Seestar smartscope. Watch out for some of our deep sky images as we learn how to use it.

Dave Faulkner
Farnham Astronomical Society
<https://www.farnham-as.co.uk>



Image Above: Friday evening clear skies were great for observing.

Dave Faulkner



Image Above: Waiting for Nik's talk to start.

Dave Faulkner

ANNOUNCEMENT

Bader College and Science Projects sign landmark 10-Year deal securing future of The Observatory Science Centre

Bader College and Science Projects are pleased to share that they have reached a 10-year agreement to keep The Observatory Science Centre at Herstmonceux Castle Estate in East Sussex. This secures the future of one of the UK's most iconic destinations for interactive science, ensuring generations of families can continue exploring hands-on discovery at this historic site.

This renewed partnership marks a commitment to joint working, enhancing the visitor experience and investing in key improvements across the Herstmonceux Castle Estate. Together Bader College and Science Projects aim to unlock The Observatory Science Centre's full potential to inspire future generations through science, history, and discovery.

"This agreement reflects our joint ambition to preserve and enhance this unique site. The Observatory Science Centre is an important part of the Herstmonceux Castle Estate, and we look forward to working closely with Science Projects to deliver an exceptional experience for visitors."

Dr Matthew Evans, spokesperson for Bader College and
Provost of Queen's University, Canada.

Abbie Rumbold, Chief Executive of Science Projects, added: "We are looking forward to welcoming visitors to The Observatory Science Centre for many years to come and are so excited about the opportunity to develop fantastic new visitor experiences. Our incredible team is ready to make the next decade and The OSC's fourth, our most fun yet "



Charity No: 298542



The Torbay Astronomical Society

70th Anniversary

John Sapleton



Image above: J Hedley Robinson in his observatory at Teignmouth

All Images Courtesy Torbay Astronomical Society

The Torbay Astronomical Society was founded in 1956 following a WEA Adult Education course run by Teignmouth banker and notable amateur astronomer, Mr J Hedley Robinson, who is regarded as the founder of the Society. Other notable founding members were Mr. MBB Heath FRAS, the Director of the Saturn Section of the British Astronomical Association, who lived in Kingsteignton, Paignton resident, Mr. Joe Johnson, who was to also become a Fellow of the Royal Astronomical Society, and



Image Above: J Hedley Robinson (left) MBB Heath and Patrick Moore (right) with the Mayor and Mayor-ess of Teignmouth in 1961

All Images Courtesy Torbay Astronomical Society

Mr. John S Cooper, father of local naturalist and wildlife filmmaker, Andrew Cooper. Within a couple of years, Hedley's good friend and fellow amateur astronomer, Patrick Moore became an honorary member, following the launch of his, then new, TV programme, "the Sky at Night".

In the early years, meetings took place in the Air Training Corps hut in Newton Abbot, procured by Mr. John Cooper who had been in the RAF. It was not until 1963 that the Society finally found a home in Torquay and, over the next 10 years met for short spells in the Quay-Tor Guest House, Scarborough Road, the old YMCA at the Castle in Castle Road, Trinity Church Hall in Parkfield Road and the Abbey Lawn Hotel back in Scarborough Road.

The Society then settled on a more permanent residence at Torquay Town Hall. This prestigious, central location proved to have easy access and ample, nearby parking (free after 6pm in those days) and was also convenient for those travelling by public transport.

The Society met in the Council Chamber at the top of the staircase through the Lymington Road entrance and continued to meet here for almost 20 years until rising charges and disagreements over extra costs imposed demanded a re-think. During this period the Society played host to several notable BAA members: Commander Henry Hatfield (twice, once as President of the Association), Mr. Colin Ronan (twice, once shortly after publishing his groundbreaking book about "who really discovered the telescope?"), Mr. W Fox, Mr. Howard Miles and the young TV astronomer Miss Heather Couper, all of whom had appeared with Patrick Moore on "The Sky at Night". The Society also heard talks from its own members including local "celebrity" Colonel RLC Gallant who had published a couple of groundbreaking books of his own, "The Bombarded Moon" and "The Bombarded Earth" and J Hedley Robinson, himself, both of whom had been guests on Patrick Moore's programme.

In 1989 Heather Couper officially opened the Torquay Boys' Grammar School Observatory which was built with the help of the Society and is operated and maintained by Society members to this day. As a result the Society began to hold a second monthly meeting for observation at the Grammar School and this has also continued to the present day. During this time TAS members who were also employed at the school began to run an Astronomy Club for interested pupils, one of whom was a young man called Chris Lintott, who was to become a co-presenter of the "Sky at Night" alongside Sir Patrick Moore and who took over the reins of the programme alongside Maggie

Aderin-Pocock after Patrick's death in 2012. Chris Lintott, who is also an FRAS and has been the Gresham Professor of Astronomy at the University of London. is the current Patron of Torbay Astronomical Society and re-opened the observatory when the original telescope was replaced with a more modern instrument.



Image Above: The 14 inch Celestron Edge Schmidt-Cassegrain telescope currently housed in the observatory at the Grammar School

Throughout this time the observatory has been used on regular meeting nights which are open to the public as well as on specific Public occasions. The telescopes that have been housed in the dome have also enabled Society members to undertake serious scientific observations, especially images of the Moon and planet and deep-sky objects like the Great Orion Nebula and the Andromeda Galaxy as well as images of comets such as Halley, Hale-Bopp and Hyakutake.

After leaving the Town Hall in protest, the Society took temporary accommodation, first at the Hele Community Centre, which proved too far out of town and, then, at the RAFA club in Scarborough Road, before a new agreement with the council brought the Society back to the Town Hall, this time for another

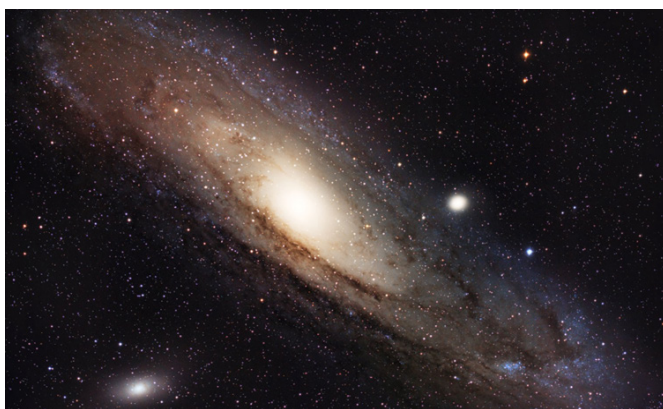


Image Above: The Andromeda Galaxy.

*Image taken by Jason Wiseman
Torbay Astronomical Society*

12 years, during which a number of speakers with academic backgrounds, from Exeter, Cardiff and the Open Universities, were invited to speak to the Society.

Following this tenure the Society chose to hold all of its meetings at Torquay Boys' Grammar School, more convenient for the use of the observatory, and which it continues to do to this day.

Over the years the Society has worked to bring Astronomy to the wider public audience and to promote Astronomy education by providing Adult Education classes, supporting schools and scouting organizations with the astronomy elements of their curriculum, holding public observing sessions and "star parties", talks and exhibitions and taking part in fetes and fairs. The Torbay Astronomical Society has also been an inspiration and catalyst to other societies forming in the South-West and Torbay members have been directly responsible for the founding of, at least, three other societies.

Throughout its lifetime, having been founded before the advent of space exploration, when the, then Astronomer Royal declared that no-one would be foolish enough to spend money on such a foolish venture as launching rockets into space, and even before the first broadcast of the "Sky at Night", the Society has heard talks on a vast array of subjects from "How the Eye Works", "How to Set up Your Telescope" and "How to Build Your Own Observatory" to talks on "Black Holes", "Dark Matter" and "Quantum Mechanics" not to mention talks on "The Apollo Programme", "The Hubble Space Telescope" and "The James Webb Space Telescope".

The society is celebrating this anniversary with a programme packed full of well-known speakers, raising a Civic Society Blue Plaque, and holding a dinner with our Patron, Professor Chris Lintott, in attendance.

John Stapleton
Chairman
Torbay Astronomical Society

Torbay Astronomical Society Forthcoming Programme

09 October

Mary McIntyre FRAS (Sky at Night Podcast)
"The History of Women in Astronomy Part 1" by Zoom

23 October

Observational Evening

06 November

Dr Mark Kidger FRAS (formerly ESA) "Mission to an Unknown Comet"

20 November

Observational Evening

04 December

Professor Chris Lintott (TBGS Old Boy, TAS Patron, Sky at Night presenter, Gresham Professor of Astronomy) "100 Years of Discovery: Astronomy in 1955 and 2055"

Torquay Boys' Grammar School, Shiphay Manor Drive,
Torquay TQ2 7EL

<https://www.torbayastronomicalsociety.co.uk>

A Selection of Lunar Eclipse Images



Image Above: Image taken at 20:37 with ZWO Seestar S50 from Market Deeping, Lincolnshire.

James Shaw
Peterborough Astronomical Society
<https://www.peterborough-as.co.uk>

Image Above: I am in West of London Astronomical Society (WOLAS). The Moon from my Edgware location rose into a bank of cloud on the eastern horizon, and I started imaging as soon as it started to clear this. These images represent pretty much how the eclipse appeared to the eye. One couldn't keep the same exposure as the Moon was rising out of thin cloud, and of course the progress of the eclipse also causes a change in brightness of the area of full Moon within the penumbra. Taken at 19:11 with 66 mm ED refractor f/5.9, Canon EOS 250D camera, 1/200 - 1/400 exp ISO 200.

David Arditti
West of London Astronomical Society
<https://www.wolas.org.uk>



Image Above: The Eclipse over Chilbolton radio telescope. Camera: Canon EOS1300D.

Mark Lloyd
Andover Astronomical Society
<https://andoverastronomy.org.uk>



Image Above: Taken with mini iPad 6, Albrighton, Shropshire. There was a lovely great bank of cloud on the eastern horizon with the eclipse merrily happening behind it, while the western horizon was clear. Typical! One hour after moonrise I was surprised how far the eclipse had advanced. I quite like this as the curvature of the Earth's shadow is very clear and the colours are pretty. I took another two pictures but as darkness progressed the outline of the earth's shadow became grainier.

Linda Manas
Wolverhampton Astronomical Society
<https://wolvass.org.uk>



**Fordingbridge
Astronomers**

Lunar Eclipse Observing

Fordingbridge Astronomers organised a viewing of the lunar eclipse on 2025 September 7 from the dark skies of the New Forest.

With the Moon due to rise fully eclipsed at around 19:39 local time, astronomers gathered in the Abbotswell Road car park in the New Forest, an area with clear views to the east and with plenty of free parking. By 7pm, scores of people had arrived, some with sophisticated telescopes, others with smart scopes such as the Dwarf 3 and the SeeStar S50 and still more with either binoculars or no optical aid at all.

A party atmosphere soon set in as members of the general public arrived, having been alerted by Forest FM radio, our website and other media sources that Fordingbridge Astronomers were planning a viewing event.

The sky had been cloudy all day, but the forecast had consistently shown a clear patch moving over the southwest from around 18:00, giving us a window of clear skies until around 21:30. And so it was. By 19:00, skies were clear almost down to the eastern horizon, where the fully-eclipsed Moon was due to rise. A persistent bank of low cloud remained however and it took several minutes for the Moon to peep above it.

All optical aid was trained to the east, as viewers peered through the haze and cloud, hoping to be the first to catch the emerging Moon. When it did appear just before 20:00, there was a gasp from the crowd; the total eclipse was over, but a crescent of brightly-lit Moon glittered above the clouds.

As the Moon rose higher and away from the cloud, dozens of eyes stared through telescopes while cameras clicked and whirled and smart scopes took time lapse exposures of the eclipse as Earth's shadow steadily moved away.

Still more people arrived, all anxious to peer through our telescopes at the ever-increasing, even-brightening uneclipsed portion of the Moon. A rough count showed at least 130 visitors and probably more had come to witness this event.

In the opinion of the author, these astronomical events are becoming ever more popular with the general public. Perhaps this is due to our efforts as a club to publicise them widely on social media, or perhaps a more general interest in astronomy since Covid times; it's hard to tell. Suffice it to say that everyone enjoyed themselves and astronomy was the clear winner on the night.

Mark Hardaker FRAS
Fordingbridge Astronomers
<https://www.fordingbridgeastro.org.uk>





Mid Wales Astronomy Society

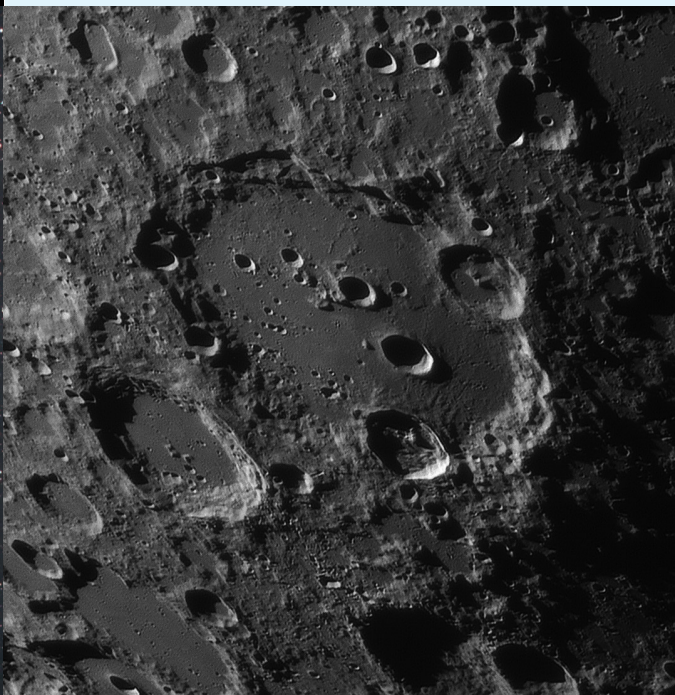


Image Above: The dumbbell nebula (M27). Equipment for deep sky images:- 25cm f6.3 Newtonian (Orion Optics), ASI 533MC with Antlia Triband filter, Mount:- SkyWatcher EQ 350 Pro, Guiding:- William Optics 61 mm GuideStar f 5.9, fl 360mm with ASI 178MM. Pegasus V3 Power Box, Guiding, Imaging and dithering mount control all done with ASAIR.

Robert Stuart

Image Above: Clavius crater (16/05/2025). 25cm f6.3 Newtonian (Orion Optics), ASI 174MM with IR cut filter, 625NM filter, 3xTelevue barlow Mount:- SkyWatcher EQ 350 Pro. Seeing Pickering 8. Capture in SharpCap, processing AS3! and Registax. 3000 frames, exp 18ms, gain 180, rate 55fps. Best 10% processed in AS3! and Registax.

Robert Stuart



Images Above: These are two photos of the moon that I took during the early hours of Sunday 17/08/2025, soon after it began rising over the horizon in the east, towards Newtown, Powys. Canon 7D Mk2 DSLR body, SkyWatcher 130/900 Newtonian, Skywatcher 2x Barlow Lens, Standard Slik camera tripod. Photos sharpened on MacBook Pro's Preview app. ISO 400, 1/13 sec, f6.9, 900mm. (That is assuming f6.9 is the correct figure, dividing Focal Length (900) by Lens Diameter (130mm), but with a 2x Barlow Lens included, would it then be f13.8, 1800mm? What do you think?) Photos captured at 01:30 hrs BST 17/08/2025.

Bob Bowen

Mid Wales Astronomical Society
Formerley Newtown Astronomical Society
<https://www.newtownastronomysociety.org>

Mid-Kent *Astronomical Society*



Forthcoming Meetings

All regular meetings are open to members and visitors, held on the second and last Friday of each month, except August and at Christmas, when there are no meetings. Unless otherwise stated, meetings normally open at 7:40pm for an 8pm start, finishing around 10pm.

10 October

Tony Roberts - John Flamsteed, first Astronomer Royal and the formation of the Royal Greenwich Observatory

24 October

Family Space Night

Doors open at 7-30

Entrance by Ticket only – see website

14 November

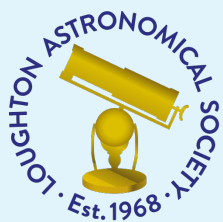
Laura Mullin - Opportunities for Radio Astronomy from Home.

28 November

Ian Ridpath - Pictures in the sky: the origin and history of the constellations

Regular Meetings take place at:
Bredhurst Village Hall, Hurstwood Road,
Bredhurst, Gillingham, Kent ME7 3JZ

<https://www.midkentastro.org.uk>



Loughton Astronomical Society

Forthcoming Meetings

02 October

Simon Banton: The Astronomy of Stonehenge

09 October

Malcolm Zack and Jonathan Daniels: Autumn Skies

10 October

AstroKyds Junior Section. AstroKyds is the Junior section of the LAS.

6:30pm at St Mary's Church Hall

16 October

Mike Frost: The Accidental Death of an Anarchist

23 October

To be confirmed

30 October

LAS Members leading public observing

13 November

Professor David Southwood: Cassini-Huygens: Missions to Saturn and Titan

14 November

AstroKyds Junior Section. AstroKyds is the Junior section of the LAS.

6:30pm at St Mary's Church Hall

20 November

LAS Members

Autumn Equinox Skycamp review. Images and anecdotes from the September Skycamp

27 November

LAS Members leading public observing

Join LAS looking at the night sky through telescopes and binoculars (first quarter Moon).

Scope doctor: bring your own scope to get the best out of it.

Alternative programme if cloudy.

The Loughton Astronomical Society is the home of all things astronomical in West Essex.

Guests are always welcome; just drop in to one of our Thursday meetings.

For more information please visit:

<https://las-astro.org.uk>

Loughton Astronomical Society

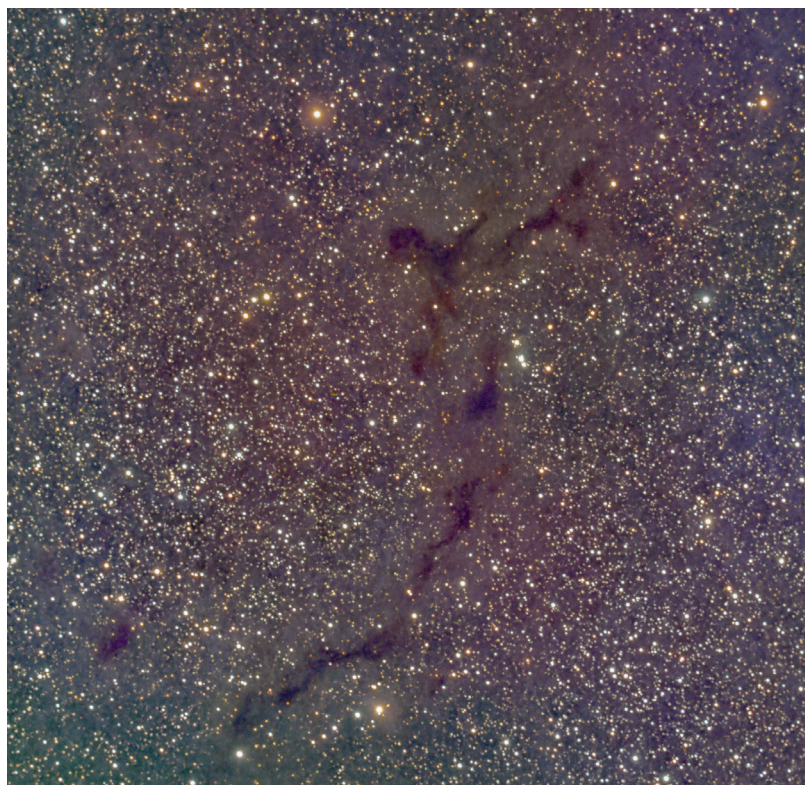


Image Above: Nick also provided this cover image. See the cover for details.

Image Left: Barnard 150 "The Seahorse" Dark Nebula. Taken with StellaMira 90EDT & ZWO 533MC camera, on a ZWO AM5N mount. Imaged from Chingford NE London (Bortle 7/8!) over 5½ hours on 5 August. I'm particularly pleased with the result as it's a notoriously difficult target to image under heavy light pollution.

Nick Williams



Space Oddities!

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Whatever it is, whether about the solar system, stars, black holes, galaxies or anything else, you can discover it with us! We create videos on a wide range of subjects, designed to tell you the facts in a way that everybody can understand. We also livestream weekly, where you can meet the team behind Space Oddities - an international group of astronomy educators from the UK, Spain, the US and Canada - and watch our presentations and discussions on anything related to astronomy, astrophysics, cosmology and the exploration of space, as well as the very latest space news. We also cover major space launches and other events live.

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Our Web site is at: <http://spaceoddities.space>

Deep Sky Astrophotography

Ian Parker

Peterborough Astronomical Society

I have had a very interesting Summer - a new telescope has made its debut! This is an APM LZOS 152mm F8 Apo refractor supplied by Astrograph (www.astrograph.net), and it has been just wonderful starting to use such a high quality instrument. I have for some years been using its little brother - the APM LZOS 100mm F8 which is also superb - but the 152 has been a step up again.

I specialise in capturing Deep Sky Object images with my setup from my backyard here in Peterborough. The increased light gathering power of the new telescope means in practice that brighter images can be captured in shorter times, fainter objects can be seen, and the increased resolution allows more detailed views of the intricate structures within deep sky objects, giving deeper insight into the awesome processes and drama of the cosmos.

This summer has seen a number of nebulae very well placed, and a few of these images are attached. As a rule, good imaging requires an object to be at least 25 degrees high in the sky to mitigate the effects of the atmosphere on the seeing conditions, but with southerly objects like M20 the Trifid Nebula in Sagittarius it never reaches such altitude from UK latitudes. So we do the best we can! All of these nebulae are actually quite significantly large objects

in the sky, but because they are very faint, a telescope is required to show them at all. People often ask at outreach events why they cannot see these amazing sights when they look up at night, and the faintness is the reason.

I have also included an image of the galaxy NGC 7331 in Pegasus. The reason this is interesting is the bright star just to the right of the bright nucleus of the galaxy. This is a supernova caught in the act, as it were. Supernovae occur when a massive star reaches the end of its life and its collapsing core triggers an immense explosion. The Supernova may outshine the entire population of its host galaxy for a brief period, such is the cataclysmic violence of the event. In this case, Supernova SN2025rbs, as it is known, flared up in July, and was still bright even when this image was taken in late August. We can expect it to fade away swiftly in the coming weeks. One can only wonder what unimaginable chaos this supernova has unleashed on its neighbouring region in this distant galaxy.

Also incredible to think that, because this galaxy is around 40 million light years distant, the explosion we are only just seeing took place 40 million years ago, when the Earth looked a very different place!



Image Above: M20, The Trifid Nebula in Sagittarius.



Image Above: M27, The Dumbell Nebula in Vulpecula.

Image Above: NGC 7380 Wizard Nebula in Cepheus.

The (new) setup I used for capture of the images is:

- Telescope - APM LZOS 152 F8 Apochromat Refractor, with APM 0.75x Reducer / Flatteners
- Camera - ATIK Horizon II Mono cooled CMOS camera, 4/3 Micro sensor
- Mount - Skywatcher AZ-EQ6 Pro equatorial
- Auto Focus - Optec Focus Lynx / DirectSync
- Xagyl 7 x 36mm Electronic Filter Wheel, with Antlia L, R, G, B broadband filters, plus Ha, OIII, SII 3nm Narrowband filters (all 36mm unmounted)
- Guiding using Altair 80mm F4 guidescope, plus ZWO ASI 224MC guide camera
- Polar alignment using QHYCCD Polemaster
- Controlled using onboard Mele Quieter 4C mini PC, running Windows 11, remotely accessed using Chrome Remote Desktop.
- Wanderer Astro Ultimate PowerBox v2 for USB and DC power control
- Capture Software - Nighttime Imaging 'N Astronomy (NINA - image capture, equipment control), PHD2 (Guiding control), EQMOD (Mount control), Stellarium

(Planetarium app), ASTAP (Plate Solving), ASCOM (Equipment integration), Typical data capture involved 20 x 1 minute subs for each channel. Using LRGB for the broadband targets such as the galaxies, and the narrowband filters for the nebulae.

Processing carried out using PixInsight for image calibration and registration, stacking, channel combination, deconvolution (RC Astro BlurXterminator) and Noise Reduction (RC Astro NoiseXterminator), with Intensity (stretch) adjustment using the Screen Transfer Function in PixInsight.

Ian Parker
Peterborough Astronomical Society
www.peterborough-as.co.uk



Image Above: NGC 7331 with Supernova SN2025rbs. Pegasus.

Image Above: NGC 7023 Iris Nebula. A reflection nebula in Cepheus.

Gemini & Mercury Remastered Exhibition at Jodrell Bank

Phil Williams Liverpool Astronomical Society

A number of members of Liverpool Astronomical Society visited Jodrell Bank Observatory on 6 September 2025 to attend the opening day of the Gemini and Mercury Remastered photographic exhibition which is in place at Jodrell Bank from 6th September 2025 to 4 January 2026. The exhibition has been described as an amazing visual odyssey that brings to life the pivotal moments from the dawn of human space exploration during projects Mercury and Gemini and it certainly lived up to expectation.



Image Above: Exhibition entrance at Lovell Telescope, Jodrell Bank, Cheshire

Image Credit: David Galvin

The exhibition displayed remastered photographs of the NASA Gemini and Mercury missions produced by NASA digital restoration expert Andy Saunders and follows the huge success of the Apollo Remastered book and exhibition hosted at Jodrell Bank in 2022.

To mark the opening of the exhibition Andy was there to chat to visitors and sign copies of the new recently launched book "Gemini and Mercury Remastered" which is a compilation of the highest quality images ever produced from the two space missions. The BBC were in attendance to interview Andy about the exhibition and the interview was later broadcast on BBC North West Tonight. He also confirmed that he was scheduled to give a Heritage Lecture at Jodrell Bank later in the month in which he would be outlining the cutting-edge enhancement techniques he used on scans of the original film to create the final images bringing them to life in unprecedented detail.

The images on display in the exhibition had been remastered from the original light film or as a result of image stacking

applied to the highest quality HD transfers from 16mm movie footage. The image stacking technique which is often employed by astrophotographers involves the stacking of several hundred frames revealing detail that has been lost since the moment they were captured. Andy first applied this powerful technique to footage from the Apollo 11 mission. Motivated by frustration that there were no very clear high quality images of our first steps on another world he used the 16mm footage from the mission to produce the only clear image of Neil Armstrong on the Moon.



Image Above: Andy Saunders signing copies of "Gemini and Mercury Remastered"

Image Credit: Maureen Williams

The book features over 300 of the highest quality photographs from our first missions into space ever published. Every image is accompanied by an explanatory caption including recorded quotes from the astronauts at the moment they were taken. Never before seen detail and input from those who made the incredible voyages make it the ultimate photographic record of early human space exploration.

Before Neil Armstrong's "one giant leap" there were many smaller vital steps that paved the way to the Moon. From the pioneering Project Mercury flights to the Gemini missions of the mid-1960's astronauts pushed the boundaries to answer fundamental questions about space travel and paved the way for the Apollo missions. The first human spaceflights were ground-breaking, bold complex missions designed to test the capabilities of the new vehicles and the astronauts. There were strict equipment weight limitations and consequently there wasn't the opportunity to include a large camera or to engage in hand held photography.



Image Above: Visitors viewing the remastered photographs at the exhibition.

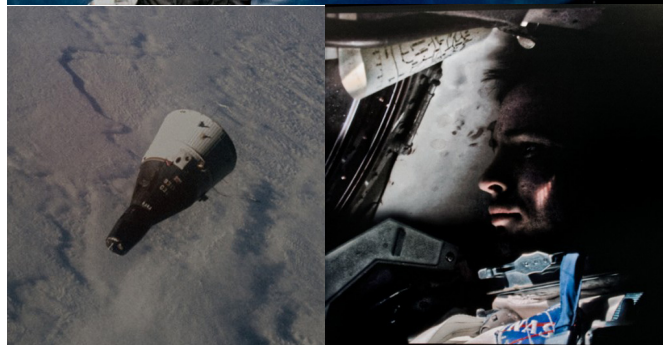
Image Credit: James Adams

The USA's first manned spaceflight was the Mercury-Redstone 3 (Freedom 7) mission on 5 May 1961 piloted by astronaut Alan Shepard. The capsule was fitted with a Maurer 220G 70mm camera configured to automatically capture one frame every six seconds. The camera was mounted and pointed via a mirror through a small porthole window. It captured the first ever views of Earth from a human spaceflight.

For the USA's first manned orbital space mission, Mercury-Atlas 6, launched on 20 February 1962 and piloted by astronaut John Glenn an Ansco Autoset (Minolta) 35mm camera was used by the astronaut who had purchased it himself. The camera was modified to enable its use in gloved hands and in the tight confines of the Mercury capsule. Using the camera Glenn took the first hand held camera photographs of space including spectacular arcs of coloured light bent by the atmosphere during sunrise and sunset.

NASA developed its photographic equipment over the years following John Glenn's rudimentary adaptations of his 35mm automatic camera. It became apparent that a camera able to accommodate larger 70mm film with interchangeable lenses and magazines was required. Commercially available Hasselblad cameras were adapted for use in space. The leather coverings, adhesives and lubricants were removed or replaced as they could off-gas in a vacuum and affect the optics.

It was the longer duration Gemini missions which incorporated a two man crew with improved mobility in a larger capsule that led to the most significant development in hand held space photography. The Gemini IV mission in June 1965 proved to be a turning point in NASA's appreciation of the intrinsic value of space photography and in particular Jim McDivitt's amazing photographs of Ed White floating in space against the backdrop of Earth one of which can be seen in the group of photos taken at the exhibition below. NASA came to realise that such spectacular photographs could help to deliver a message to the taxpaying public and provide visual substance to the work and cost of space exploration. The existing view-finder was removed as it would be impossible to be used by a helmeted astronaut. A rudimentary method of aiming the camera via the side-mounted "cold-shoe" was used when required. NASA also experimented with other cameras including the Hasselblad Superwide and the 70mm Maurer Space Camera.



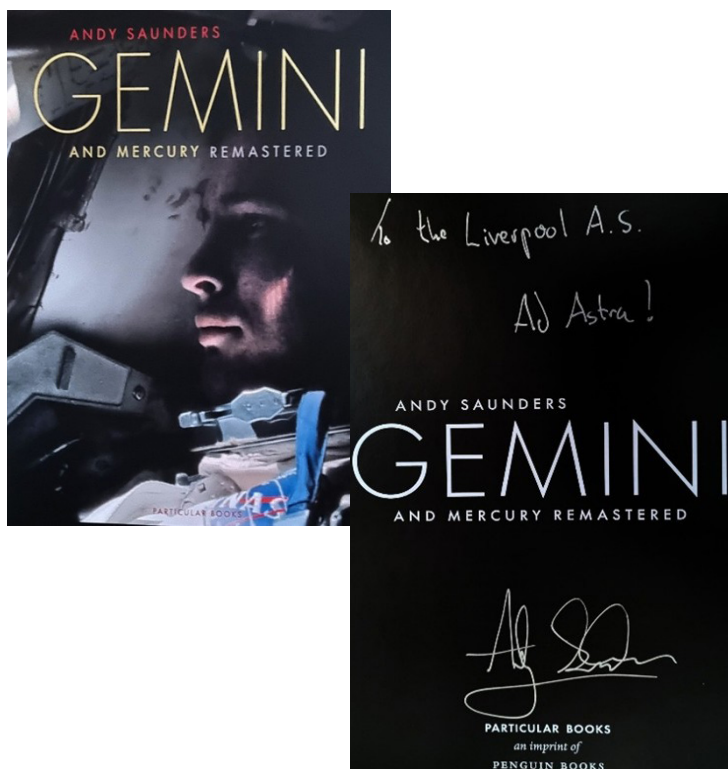
Images Above: Some of the remastered images on display at the exhibition.

Image Credit: David Galvin



Image Above: Andy Saunders with L.A.S. members at the Gemini and Mercury Remastered exhibition

Society members took the opportunity to chat with Andy and have their copies of the impressive book signed by him. Andy also signed a dedicated copy of the book for the Liverpool Astronomical Society Library with the inscription "To the Liverpool A.S. Ad Astra!" See overleaf:



The Gemini and Mercury missions are often overshadowed by the more publicised Apollo missions but they were crucial stepping stones that developed essential spaceflight technologies and skills such as rendezvous, docking, long-duration flight and extravehicular activity (EVA) that were vital for the Apollo lunar landings and beyond. Without the Gemini and Mercury missions the Apollo programme and subsequent space endeavours like the Space Shuttle and International Space Station would not have been possible.

Andy's excellent book will serve to boost awareness of the huge significance of the Gemini and Mercury missions as will the impressive exhibition at Jodrell Bank which was chosen to host the very first exhibition of his work.

Phil Williams
Liverpool Astronomical Society
<https://liverpoolas.org>

This book is available from Amazon at
<https://www.amazon.co.uk/Gemini-Mercury-Remastered-Andy-Saunders/dp/0241638194>



The Enigmatic Universe: Astronomy Weekend

Overview

Join us for this 45th annual Astronomy weekend event at Oxford University, where we will be celebrating the latest advances in astronomy and planetary science, featuring some of the best images from space probes and ground-based telescopes.

This year there will be a particular emphasis on The Enigmatic Universe, with the gaps in our understanding being addressed through new telescopes, new missions and the use of machine learning and AI to spot patterns and analyse ever-increasing amounts of data.

This richly illustrated event is open to all and does not assume any specialist knowledge.

It will give those already familiar with astronomy new insights and up-to-date information from leading experts from Oxford University and elsewhere in the UK and the USA. For those new to astronomy, the weekend will provide an excellent introduction to many topics that presently concern researchers in astronomy and planetary science.

Please note: this event will close to enrolments at 23:59 on 15 April 2026.

Full details of this event can be found here:

<https://lifelong-learning.ox.ac.uk/courses/the-enigmatic-universe-astronomy-weekend?code=O25P102PYR>

University of Oxford Lifelong Learning
<https://lifelong-learning.ox.ac.uk/>



Hertford Astronomy Group

Programme 2025 / 2026

<i>Date</i>	<i>Speaker</i>	<i>Subject</i>
Sat, September 6	* Special Event	Publicity Display, Welwyn Garden City
September 10	Roger O'Brien	Messier the Comet Hunter
October 8	Samantha Rolfe	The UH Bayfordbury Observatory
November 12	Garry Hunt	A Lifetime in Space
Sat, November 29	* Special Event	Introduction to Astronomy Hosted by Wheathampstead U3A
December 10	Greg Smye-Rumsby	The History of Longitude at Greenwich
January 14	Marina Galand	Aurorae Around the Solar System
February 11	Simon Foster	Our Living Sun
March 11	Jerry Stone	Nell, Esther & Aunt Effie: The centenary of liquid-fuelled rockets
April 8	Sheridan Williams	Fascinating Astronomical Facts
May 13	Lewis Dartnell	How the Earth Shaped Human History
	Plus - Annual General Meeting	
June 10	Louise Devoy	Royal Observatory, Greenwich: A history through objects
Sat, June 27	* Special Event	Welwyn Festival Fun Day
Sat, July 11	* Special Event	Wheathampstead Village Day
Wed, August 12	* Special Event	Public Solar Eclipse Watch

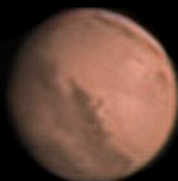
Special Public Events will take place during the year.

These will include public observing events, and advice and assistance regarding telescopes.

See the website in due course for details

All events are subject to amendment.

www.hertsastro.org.uk



Images : Steve Heliczer

A Selection of Readers' Images



A single shot of the Lunar eclipse midway through umbra as it first appeared above the moraine, due East of my house in the centre of Miagliano village, at the mouth of the Cervo Valley. Too much atmospheric dust and heat haze for a good shot...

Details: looking due East, just as the moon appeared above the horizon. Miagliano, Piedmont at 19:48 UT on 7 September 2025. Single exposure with a Motorola g52 smartphone, 0.5s exposure, f/1.8, ISO 3200; coupled with a Novagrade adapter to a tripod mounted 10x56mm f/4 Zeiss Conquest binocular.

Alan Fowler
Member of Hampshire Astronomical Group
Clanfield, Hampshire, UK
<https://hantsastro.org.uk>

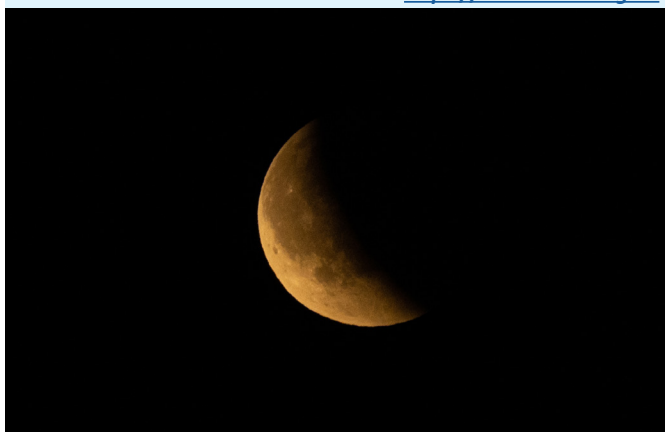
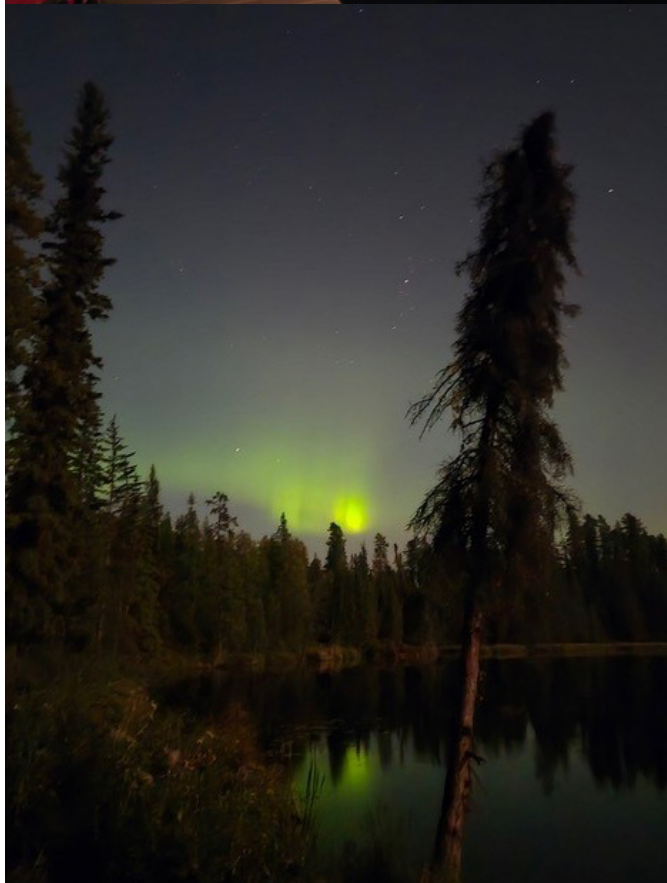


Image Above: The Partially Eclipsed Moon after totality. 7 September 2025 at 2018. And the Full Moon after the Eclipse at 21:38. Nikon Z7 and Tamron 300mm lens processed and cropped in Photoshop.

Michael Bryce
Carolian Astronomy Society
www.carolianastro.co.uk
Bromsgrove Astronomical Society
<https://broms-astro.org.uk>



Images Above: Canadian camping holiday at Crimson Lake, Alberta, Latitude 52.5N. Clear sky, but bright moonlight dimming the stars. No chance of Lunar Eclipse (wrong hemisphere). Then surprise Northern Lights around 2230 Mountain Time. (Samsung Galaxy mobile phone)

Bert Mackenzie, Observatory Guide
Stirling Astronomical Society
www.stirlingastronomicalsociety.org.uk