

Federation of Astronomical Societies

Editor: Michael Bryce



fedastro.org.uk

Newsletter

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The Newsletter for Members of FAS Affiliated Astronomical Societies

Cover Image: Rho Ophiuci Cloud Complex

*Credit: Steve Fox, Farnham Astronomical Society
<https://www.farnham-as.co.uk/>*

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President's Spot:

Clare Lauwerys



Something very strange has happened - I had ideas for this President's Spot before I even turned my laptop on. I may need to check in with a doctor later!

Summer Observing

Hands up - who else is a fan of summer astronomy? Yes, it doesn't get dark very early but not having to put on a million layers is a definite bonus. And of course there is the Sun.

My own society takes solar scopes to local fetes and fayres, and we always have a great time talking to the public. We do have to reassure them that what we are doing is safe but once they know they can see activity on the Sun without risking their eyesight, they are excited to learn more. If it rains - as it often does in the UK - here's always cake and ice cream to be had. And gin. I think the personal record for my partner in crime - hello Cheryl - and me is 10am for a bit of gin tasting. We hope to break our record this summer!

Now to more serious things!

FAS Convention – Cardiff

Let me first remind you that it's not long until the FAS Convention in Cardiff. There are still some tickets available. The deadline for buying tickets is 20 June so don't miss your chance to attend what promises to be another inspiring event.

We have a great line up of speakers for our over-arching topic of "Ancient Tech, Modern Challenges, and the Future of STEM."

- **Prof. Paul Roche FRAS** - Using astronomy to engage students in STEM.
- **Prof. Mike Lockwood FRS** - Space Junk - The danger of orbital collisions.
- **Dr Jane Clark** - Measuring Solar System Orbits for Yourself.
- **Prof. Mike Edmunds MA PhD FRAS** - The Antikythera Mechanism Revisited.
- **Dr Jenifer Millard** AKA "Dr. Jen" - A Waste of Space.

Our sincere thanks to First Light Optics for their continued support as Gold sponsor.

You can find out more and buy your tickets by going to <https://www.eventbrite.co.uk/e/ancient-tech-modern-challenges-and-the-future-of-stem-tickets-1982501668859>

Graham Bryant Memorial Award

Next on my list of things to tell you is that nominations are now open for the 2026 Graham Bryant Memorial Award. Graham did so

much to advance and support the world of amateur astronomy and we established this award in his memory to recognise significant contributions by others to amateur astronomy. It's only the second year we've held this award, and last year we loved hearing about the many amazing people out there. Please take a moment to think about the stars and unsung heroes in your society and consider nominating them.

Full details plus the nomination forms are on our website <https://fedastro.org.uk/fas/graham-bryant-memorial-award/>.

For Committee Members

Finally, a note to committee members. We have updated some old documents and produced a new one to help society committees. If you're the main contact and haven't received them, please check your spam folder. Copies are also available on Membermojo. If there's an aspect of running a society we haven't covered, please let us know. As with other matters, I can always ask other societies how they have solved issues. Part of the strength of the FAS is our ability to connect groups and help everyone learn from each other.

Clare

Graham Bryant Memorial Award 2025 Winner...



Image Above: Allan McCarthy (on the right) from Bristol Astronomical Society is awarded the 2025 Graham Bryant Award Trophy.

The Rho Ophiuchi Cloud Complex

Cover Image

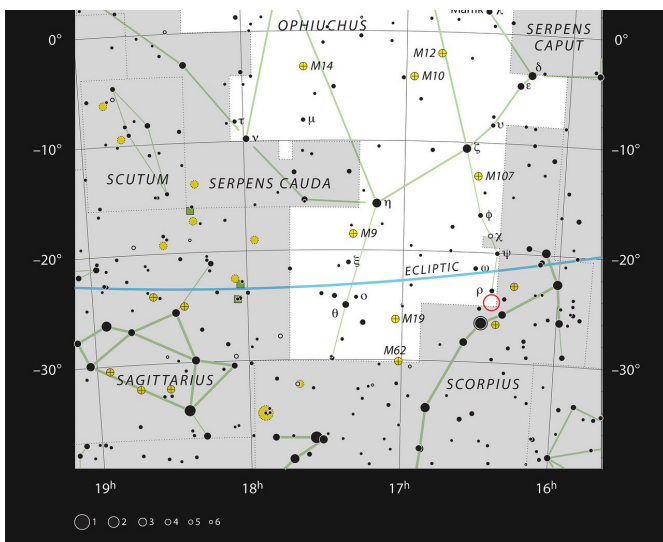
Steve Fox

I've wanted to photograph this colourful Rho Ophiuchi Cloud Complex region of the sky for a long time but from the UK it hardly ever gets high enough in the sky to make a serious attempt. In wide angle shots it is off to the side of the Milky Way core so with an unobstructed horizon it can be seen in Milky Way core season which is March to May in UK.

However, recently holidaying in the Algarve and having taken the mini portable smart telescope Seestar S30 Pro with me in hand luggage (weighing only 2kg !!!) there had to be an attempt to capture this colourful region. Even at Algarve latitude, the target region doesn't rise high in the sky, and even then only between about 1 – 4 am. Given the middle of the night target availability, I decided to use the Seestar's 'Plan' mode where you just set up the target and times and it will go automatically do everything necessary unattended and present a stacked image in the morning. This setup only takes a couple of minutes! It also would be a great target for a DSLR/Mirrorless on a star tracker.

Due to the target's low elevation the scope was shooting through a lot of the Earth's atmosphere and was from a hotel balcony through a lot of light pollution from hotel and street lighting using the simple Alt/Az mode on the Seestar (not Eq mode as that would have required a wedge and adaptors boosting the weight to carry). The weather was great, although the nights were a little hazy, but there were a couple of super clear nights. Given all of that I wasn't expecting much.

After post-processing the result is ok and better than I expected given the limitations but by no means in the premier league of images from that region. I would love to give it a go with my small astro rig or mirrorless/star tracker from a dark sky site from a more suitable location – one day (or night!) maybe.



Techy stuff

The Rho Ophiuchi Cloud Complex is one of the nearest active stellar formation regions to Earth being a mere 400 light-years away in the constellations of Ophiucus and Scorpius. It contains areas of dense gas and dust and has all kinds of deep sky features.

- Just below top right the big bright yellow star is Antares about 550 light-years away. Despite its colour it is classed as a red supergiant and is about 15 times the mass of the Sun, illuminating the cloud complex in the foreground
- Top right is the globular cluster containing some 100,000 stars designated M4 which is about 5,500 light-years away. It is the closest globular cluster to Earth.
- Top middle is the star Alnyat which is actually a quadruple star system orbiting around each other about 570 light-years away. Near Alnyat is red emission nebula of ionized Hydrogen gas
- Slightly left of middle is IC4603, both a reflection and emission nebula and the centre of the star forming region.
- To the LHS middle is IC4603, a blue reflection nebula
- The dark patches from the middle going down a dense clouds of dust obscuring the light from the background stars

Equipment

Image taken with Seestar S30 Pro, focal length 160mm, f/5.3. 311 frames of 20 secs each, post processed in SetiAstroSuitePro and finished in Affinity.

Steve Fox
Farnham Astronomical Society
<https://www.farnham-as.co.uk>

Image Left: This chart shows the large constellation of Ophiuchus (The Serpent Bearer). In the southern part of this constellation there is a spectacular region of dark and bright clouds, forming part of a region of star formation. This chart, which shows all the stars easily seen with the naked eye on a dark and clear night, shows the location of Rho Ophiuchi, the brightest star in the region.

Image Credit: European Southern Observatory
<https://www.eso.org>



**The Federation of Astronomical Societies
will be holding its**

2026 Convention

Saturday 27 June at Cardiff University

Our Gold level Sponsor is First Light Optics. Silver level sponsors are the British Astronomical Association and nPAE Precision Astro Engineering. All are repeats from last year, showing their belief in being involved.



FIRST LIGHT OPTICS



nPAE

PRECISION ASTRO ENGINEERING

Our five speakers are:

Paul Roche FRAS

Chair of Astronomy Education at Cardiff University

An astronomer who specialises in outreach and education, working with schools to develop astronomy and space-themed STEM education resources and programmes.

Jane Clark

Observatory Manger, Cardiff Astronomical Society.

Jane has written books on mapping the solar system, imaging the solar system, photographing galaxies from light-polluted skies, and is now engaged in a quest with David Bennett to measure distances to nearby stars.

Mike Lockwood FRS

Professor of Space Environment Physics at the University of Reading and current President of the Royal Astronomical Society. An award-winning physicist who specialises in the cutting-edge study of space weather, the Northern Lights and solar radiation.

Jen Millard

Lecturer at Cardiff University, An expert science communicator on national and international radio and TV, TedX Cardiff and in BBC clips on YouTube. Watch her podcasts "Awesome Astronomy" and "Growing Worlds".

Mike Edmunds MA PhD FRAS

Emeritus Professor of Astrophysics. Former Head of the School of Physics & Astronomy. Chair of the Antikythera Mechanism Research Project - an international collaboration that investigates the extraordinary Greek calculator which, although well over 2,000 years old, can predict astronomical positions and events.

There is a discounted price for members of FAS affiliated societies. A promo code has been sent to all societies to buy tickets for the low price of just £10 per person, £5 for under-16's, £20 for families (plus bookings fee). Public tickets will be made available later if space permits.

Tickets are already selling fast! For more information, visit www.fedastro.org.uk

To book displays and adverts contact Jerry Stone at meetings@fedastro.org.uk



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West Didsbury Astronomical Society Turns 25

Susie Busby



Image Left: WDAS Observing Trip to dark skies site in March 2018.

Credit: West Didsbury Astronomical Society

Images on next page: March 2026 Observing Trip evening dinner, and Star trails from a Seestar S30 Pro.

Credit: Sonia Turkington

West Didsbury Astronomical Society (WDAS) turned 25 this May. The society will celebrate at their July meeting with members sharing their astronomical stories, photos, and memories from the past 25 years.

“WDAS’s philosophy is simple,” explains WDAS chair, Phil Brocklebank. “We aim to bring together people from all sections of society who have an interest in astronomy. We’ve created a space where professional, academic and amateur scientists, as well as astro-enthusiasts, can meet to share knowledge and inspire each other. Our meetings are relaxed and friendly. All are welcome including beginners.”

WDAS’s story began in 1999 when physics teacher, John Thompson, started running six-week stargazing courses at Fielden College in Didsbury. His love of astronomy was infectious and the stargazing classes quickly turned into a GCSE course with lessons continuing in the pub after the college closed.

John floated the idea of setting up a society at the college which was met with enthusiasm. The inaugural meeting was held in May 2001 where the committee was formed and constitution agreed.

Since then, there have been 277 meetings made up of: 229 evening talks from professional and amateur astronomers, 18 quizzes, 30 AGMs and Members evenings. Plus, they have had 10 workshops, 30 field trips to dark sites, 25 local observing sessions, 24 meals out and 7 talks to local groups.

During lockdown WDAS quickly moved their meetings online and set up an Observing WhatsApp group for members to stay in touch and still feel part of their astro community. A dedicated

Astrophotography WhatsApp group has also been added to the mix. WDAS photographers are producing some fantastic images which can be seen on the WDAS website. Now back to face-to-face meetings, Zoom has been maintained for members who can’t make it to meetings as well as enabling to invite speakers from across the UK and overseas.

A dedicated Astrophotography WhatsApp group has also been added to the mix. WDAS photographers are producing some fantastic images which can be seen on the WDAS website.

WDAS would like to thank John Thompson for help in getting it started, all the speakers who have generously given their time and shared their knowledge, and members for turning out each month to hear the talks and attend events. Thanks also go to the Committee for organising and running the society.

“The society is going from strength to strength with more members than ever in 2026,” says Phil. “What’s more, as established all those years ago, members still go to the pub after meetings to continue with astro chat and cementing friendships.”

For meeting details and more please visit: www.wdas2.com

Susie Busby
West Didsbury Astronomical Society
www.wdas2.com



West Didsbury Astronomical Society's Field Trip To Anglesey March 2026

Sonia Turkington



There is something special about packing up your astronomy kit and heading out with fellow enthusiasts for a whole weekend of stargazing. Being a new member of the Society I was very much looking forward to this trip away.

Friday Evening

Arrival, Chippy Tea And A Sky That Delivered.

On arrival we set up the telescopes in hope that the skies would clear. Then we all gathered around the table for a chippy tea – the perfect start to a weekend away.

After we were treated to one of the most breathtaking night skies many of us have seen in a long time. Some members busied themselves imaging. Others took turns at the 12" Dobsonian or enjoyed sweeping the sky with binoculars. Jason Woolley guided people to objects of interest. I simply stood in awe, whilst my SmartScope quietly worked beside me.

It was wonderful to see everyone outside, enthusiastic, curious and completely absorbed in the night sky.

Saturday Morning:

Breakfast And Walks.

Saturday began with a varied and delicious breakfast. We then split-up into groups: those on the short walk headed out to the beach and back, whilst others opted for a longer walk along a coastal path.

Saturday Evening

Food, Music And Good Company.

The weather wasn't as kind to us that night. The clouds had rolled in giving us the odd clear spell. But honestly, it didn't matter. The warmth of the group, the conversations and the shared enthusiasm for astronomy made the evening just as enjoyable. As a new member, it was lovely to spend time with getting to know everyone properly.

Sunday morning

We had breakfast, cleaned and tidied up and went our separate ways.

It was a weekend to remember, full of stars, fresh air, great food and great company.

A huge thank you to Phil Brocklebank and Susie Busby for organising the trip, to Jason Woolley who prepared and set up the society telescopes, and to everyone else who cooked, cleaned and contributed to making this trip enjoyable.

Here's to many more nights under dark skies together.

Sonia Turkington
West Didsbury Astronomical Society
www.wdas2.com

Society for the History of Astronomy

SPRING CONFERENCE

Friday, April 24 2026

Report and Text by David Sellers

The SHA Spring Conference for 2026 was a great success, with a higher number in attendance than last year, despite the unfortunate need to shift it from the usual Saturday to a Friday. Members and guests assembled at the Birmingham and Midland Institute (BMI) were treated to a wide range of entertaining and enthralling presentations.

Mary McIntyre spoke first on Astronomical and Atmospheric Events Depicted in the 'Augsburg Wunderzeichenbuch' (The Book of Miracles). This is a 16th Century illuminated manuscript, produced in Germany. It consists of 123 hand painted folios depicting various 'miraculous' events, many of which, Mary showed, depict perfectly ordinary astronomical events like eclipses, meteor showers, comets and atmospheric optics, painted in a dramatic yet charming style.

Next we had Martin Mobberley and his presentation on Eccentric BAA characters of the 20th Century. The BAA had numerous eccentrics and even barking mad members during the 20th Century. Martin raised lots of laughs (and eyebrows!) with his summary of the most amusing characters.

After an excellent buffet lunch, Wendy Bevan Mogg's fascinating talk on Nevil Maskelyne (no, not that one!) – Astronomer and Magician introduced us to the little-known Nevil Maskelyne (1863-1924), who was instrumental in capturing the first moving picture films ever made of a solar eclipse. As well as being a pioneering cinematographer, he was also an inventor, wireless telegraphy engineer, anti-spiritualist and a renowned stage magician.

Roger Hutchins gave a much-awaited Appreciation of Allan Chapman (right). This had been originally billed as a celebration as our honorary President approached his 80th Birthday. Sadly, Allan unexpectedly died before it could be delivered. A video has been made of Roger's presentation, so in due course members who couldn't be present will be able to watch it.



Image Above: Speakers at the Spring Conference (l. to r.: Martin Mobberley, Vladimir Brljak, Roger Hutchins, Mary McIntyre, and Wendy Bevan-Mogg Please see attached.

Photo credit: Mike Frost

The final talk of the day, in memory of Michael Hoskin, was delivered by Vladimir Brljak, of Durham University, on Oh, how strange! the heavens are black': From a Bright to a Dark Universe in the Western Cosmological Tradition. Drawing on textual and visual evidence from antiquity to the present, the lecture opened our eyes to an unfamiliar perspective, tracing a shift from a bright blue to a black universe and its cultural impact.

With much appreciation and thanks to all our guest speakers, Mike Frost SHA meeting secretary, and staff at the BMI Birmingham.

David Sellers
Society for the History of Astronomy
<https://societyforthehistoryofastronomy.com>



Mexborough & Swinton Astronomical Society

Serving South Yorkshire

Meetings take place at Mexborough Church Hall, Church Street, Mexborough, S64 0ER.
 Observatory: Lea Brook Lane, S62 7SH : (What3Words ~ gear.negotiators.radiates)

Every Thursday Evening from 7:30pm. Visitor fee £2. All our speaker evenings are available online on Eventbrite at <https://www.eventbrite.co.uk/cc/msas-zoom-talks-814679>

June 4	Members Night Solar Filter Construction – 3D printers will be on hand to aid the construction of filters – some Bader film available but best to bring your own as stocks are low!
June 11	“Summer Skies” Speaker: Kris Hudson-Lee Kris has been a member of the society on and off since he was just 10 years old, first joining in 1983. In his time as a member, he has given many talks about many subjects however his main interest has always been the outer solar system. He holds degree level qualifications in astrophysics with mechanics.
June 18	“The Fermi Paradox” Speaker Dr Martin Braddock The Fermi Paradox highlights the contradiction between the high probability of extraterrestrial life and the lack of evidence for it. Dr Martin Braddock is a professional scientist and a former Royal Society University Research Fellow at the University of Oxford
June 25	Society Annual general Meeting It has to happen! There will be a Quiz and maybe sausage rolls afterwards!
July 2	“Confessions of an Astronomer” Speaker Prof Ian Robson A light-hearted and personal look at the life of a professional astronomer. Professor Ian Robson is an eminent astrophysicist known as a pioneer of ground-based submillimetre astronomy.
July 9	“Our Cosmic Origins” Speaker Mark Norris All of the chemical elements of the periodic table are produced in space. Mark Norris is an observation astronomer who undertook his degree and PhD at Durham University, since 2015 he has been a lecturer then senior lecturer in Astrophysics at the University of Lancashire.
July 16	“Did they go? - Moon Landing Hoax and Evidence Debunked” Speaker Andrew Mowbray In an age of rampant conspiracy theories, this talk discusses the “evidence” that is often put forward that the Moon landings were fake and how they can be debunked. Andrew Mowbray gives talks on astronomy and formerly Secretary and Webmaster of the Castle Point Astronomy Club.
July 23	“Fireballs in the Sky” Speaker Prof Martin Lee This lecture describes the wonder of meteorites – where they come from, what happens when they land (often with a bang!) and how they can help answer the biggest questions in science including the origins of life on Earth. Martin Lee is Professor of Planetary Science in the School of Geographical and Earth Sciences, University of Glasgow.
July 30	“Astronomy of the Islamic Calendar” Speaker Qamar Uddin This presentation will discuss the history of lunar calendars from over 3000 BC to the present (21st century), explaining their principles, followed by the science and jurisprudence of Islamic calendars. Qamar Uddin is an electronics engineering graduate a member of York Astronomical Society he manages a network of crescent moon watch volunteers across the country, relating to the Islamic Calendar for the UK.

Other Society Events

Sunday June 7 - Solar Sunday at the Observatory (Free to the public) 11am – 3pm
Sunday June 20 – Members BBQ (Friends & Family)
Sunday July 5 – Wentworth Village Day – <https://www.wentworthcommunity.co.uk/village-events>
Mexborough & Swinton Astronomical Society
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 Visit our website at <https://msas.org.uk>

“Calling Occupants of Interplanetary Craft”

Phil Williams

The outstanding success of the recent Artemis II mission could not have been achieved without the use of comprehensive advanced communication systems. Communication with astronauts was of course a key aspect of the Apollo missions and the use of the NASA Deep Space Network has been and continues to be of significant importance in many NASA space missions including the ground-breaking Voyager I and II missions which were launched in 1977. This was also the year that a popular song by the American duo Karen and Richard Carpenter was released aptly entitled “Calling Occupants of Interplanetary Craft”. NASA is still communicating with the Voyager spacecraft which are now both in interstellar space beyond the sphere of influence of the Sun or heliosphere. Voyager I is currently about 25 billion km from Earth and Voyager II is at a distance of about 21 billion km. The two spacecraft are travelling at approximately 17 km/s and 15 km/s respectively and it is calculated that Voyager I will be at a distance of one light day from Earth in November 2026.

Voyager I and Voyager II communicate with Earth using a combination of radio transmitters, large Earth based dish antennae through NASA’s Deep Space Network which is discussed in more detail later. With respect to radio transmission from the spacecraft each Voyager carries a radio transmitter, receivers, computers and a 3.7 metre high-gain dish antenna. Both spacecraft use Radioisotope Thermoelectric Generators (R.T.G.’s) which convert heat from decaying plutonium-238 into electricity. Power declines slowly each year so NASA gradually shuts down instruments to maintain

communication longer. Images are no longer sent as the narrow and wide angle cameras were turned off in 1990 to conserve electrical power and computer resources. Voyager I took its final images including the famous “Pale Blue Dot” on 14th February 1990.

The communication systems used in manned space missions including Artemis II serve a number of vital roles including communication with astronauts, sending of direct commands to spacecraft, tracking and navigation and the sending and receiving of data and images. The communication systems employed in the Artemis II mission involved three main components:

- The NASA Deep Space Network (D.S.N.)
- Goonhilly Earth Station (GHY-6: 32m X/S Band Antenna)
- The laser-based Orion Artemis II Optical System (O2O System)

The NASA Deep Space Network (D.S.N.) consists of three sites at locations on the globe positioned at approximately 120 degrees from each other enabling at least one of the three to have line of sight of the spacecraft at any time. The D.S.N. sites are located at the U.S. Army’s Military Complex at Fort Irwin California; Robledo de Chavela Complex in Madrid and the Canberra Complex in south east Australia.

Each of the three D.S.N. complexes consist of at least four antenna stations, each equipped with large parabolic dish

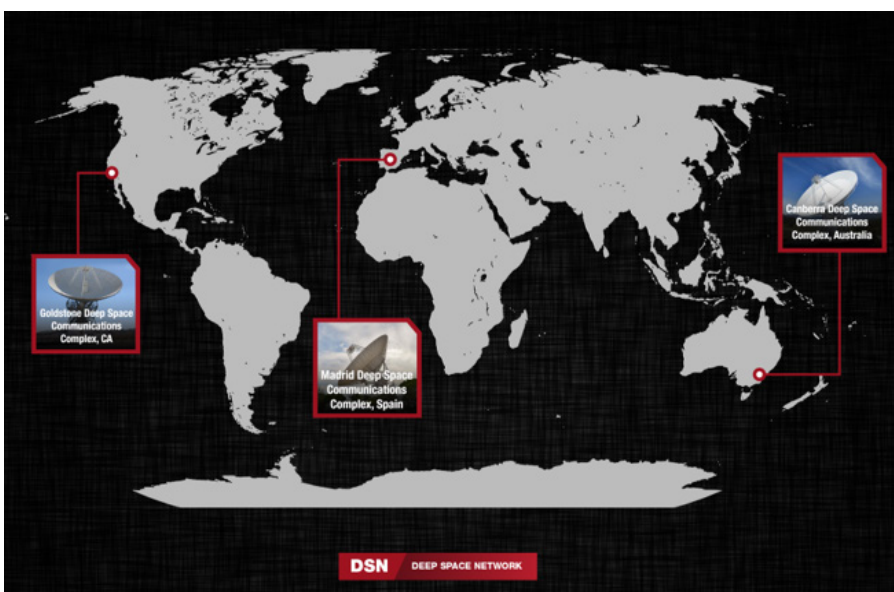


Image Above: Diagram of the locations of NASA Deep Space Network

Credit: NASA/JPL-Caltech

Image Right: Goldstone Deep Space Communication Complex, Fort Irwin, California

Credit: NASA



antennae and highly sensitive receiving systems capable of detecting extremely faint radio signals from distant spacecraft. The antennae incorporate focusing mechanisms that concentrate power when receiving data and transmitting commands and they are also equipped with systems for signal amplification. The network also uses sophisticated technology including the cooling of amplifiers close to absolute zero and signal encoding to distinguish the signal from background radio noise. The complexes are also situated in semi mountainous bowl shaped terrains to shield from external radio interference. Antennae stations are remotely operated from a signal processing centre at each complex. The processing centres house electronic systems to control the position of the antennae, receive and process data, transmit commands and process spacecraft navigation data.

The processed data is transmitted to NASA's Jet Propulsion Laboratory for further processing and distribution to science teams over a ground communication network.

The Deep Space communication site at Goonhilly Earth Station, located on Goonhilly Downs on the Lizard Peninsula in Cornwall,

played a significant communication role in the Artemis II mission. The site itself is a historic satellite communications facility and became internationally famous in 1962 when it received the first live transatlantic television signals via the Telstar 1 satellite helping to launch the era of global satellite broadcasting. In 1969 the facility famously relayed live footage of the Moon landing to Europe. Historically Goonhilly handled international telephone, television and data traffic via satellite. The site evolved into a commercial satellite communication and space technology centre and is now operated by Goonhilly Earth Station Ltd. The station has collaborated with NASA, the European Space Agency and commercial space companies for deep-space network services.

With respect to the Artemis II mission the station's main role was in direct tracking of the Orion spacecraft using its upgraded Merlin (GHY-6) dish antenna. It also performed passive tracking by analysing the spacecraft's radio signals to determine Orion's precise trajectory. Processed tracking data was sent to NASA mission teams. The success of the station's involvement in the mission was significant in that it demonstrated that a commercial ground station outside

Image Right: Goonhilly Earth Station, Goonhilly Downs, Cornwall

Credit: Goonhilly Earth Station Ltd.





Images Left and below: The Merlin (GHY-6) 32 metre Deep Space Communications Antenna (Credit: Goonhilly Earth Station)

Credit: Goonhilly Earth Station Ltd.

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GHY-6: 32m X/S-Band Antenna

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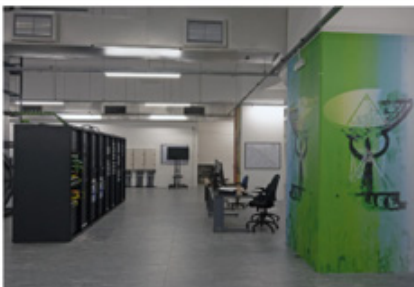


Image Left: NASA JPL Table Mountain Optical Communications Facility Wrightwood California.

Credit: NASA/JPL

NASA's own Deep Space Network can support human deep space missions. Goonhilly had previously supported the Artemis I mission in 2022 but Artemis II elevated its role by involving human spaceflight operations. The B.B.C. provided comprehensive coverage of the mission and there were a number of live broadcasts from Goonhilly during which the Deep Space Missions Operations Leader, Jamie Williams outlined the progress of the mission and the role of Goonhilly Earth Station.

The Merlin antenna (GHY-6) at Goonhilly is the largest operational antenna at the station and was originally built for telecom satellites. It has been extensively upgraded for deep-space communications. Merlin has a reflector diameter of 32 metres and a tracking structure weight of 410 tonnes.

The Artemis II astronauts transmitted high-resolution video to Earth using a laser-based communication system which marked a significant advancement over traditional radio technology used in earlier space missions. The system referred to as the Orion Artemis II Optical Communications System or O2O System enabled Orion to send data at substantially higher speeds supporting detailed imagery and near real-time communication.

The technology was developed by NASA in collaboration with Massachusetts Institute of Technology Lincoln Laboratory. The system uses infrared laser signals to transmit data and is capable of sending data to Earth at 260 megabits per second with return data rates of approximately 20 megabits per

second. This enables the transmission of 4K video, high-resolution images and scientific data from the spacecraft. The system works by encoding data into pulses of infra-red light which are transmitted from an on-board terminal about the size of a domestic toaster to ground stations with favourable atmospheric conditions. The primary technical challenge of the system is maintaining precise alignment between the spacecraft and receiving stations and the laser beam must be pointed with extreme accuracy, within a fraction of a degree to ensure successful data transmission to the receiving stations located in California, Madrid and Canberra. To achieve this accuracy the system uses a telescope mounted on a gimbal together with fine-tuning optics and tracking sensors.

The Artemis II mission relied on conventional radio communication for core mission operations. However the addition of optical communication represented a step toward higher-capacity data links for future missions.

The content of this article was the basis of a talk given at the Liverpool Astronomical Society A.G.M. by Society Vice-President Mr Phil Williams on Friday 15th May 2026.

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



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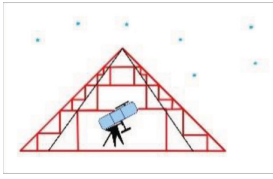
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Milton Keynes Astronomical Society

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Bletchley
Milton Keynes
MK3 6BJ
www.mkas.org.uk

Programme 2026

Date	Meeting	Programme Event
16 January 30 January	Astrodome Guest Speaker	By members Dr. Mike Leggett Astronomy & Exploration
13 February 27 February	Astrodome Astro Quiz	By members Mark Hurn
13 March 27 March	Astrodome Guest Speaker	By members Sheridan Williams Eclipses
10 April 24 April	Astrodome Oscars	By members By members
8 May 22 May	Astrodome Guest Speaker	By members Mark Hurn via Zoom History of the Sun
5 June 19 June	Astrodome Guest Speaker	By members Mary McIntyre General Astrophotography of Meteors
3 July 17 July	Astrodome Guest Speaker	By members Paul Fellows Northern Lights & Space Weather
31 July	Astrodome	By members
14 August 28 August	Short Talks Astronomers Question time	By members By members
11 September 25 September	Astrodome Guest Speaker	By members Dr. Matt Bothwell Update on James Webb Telescope
9 October 23 October	Astrodome Guest Speaker Richard Lambert Memorial Lecture	By members RLML Mike Frost Who's who in the Moon?
6 November 20 November	Astrodome AGM	Annual General Meeting + Election of New Committee
4 December 18 December	Astrodome Christmas Social	Members & invited Guests Event

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Meet Nova: The New Brightest Star at the York Astronomical Society

Since 1972, the York Astronomical Society (YAS) has been dedicated to one clear mission: helping people explore the wonders of the universe. Whether we are setting up telescopes on a freezing winter night or hosting lectures on the history of cosmology, our goal is to make astronomy accessible to everyone.

Today, we are thrilled to announce a new way to access that knowledge—right from the comfort of your home. We are proud to introduce the newest member of our team: **Nova**.

Who—or What—is Nova?

Nova is our brand-new AI-powered member, designed specifically for the York Astronomical Society. While our committee members and volunteers work tirelessly to keep the society running, they can't be awake 24 hours a day (even if astronomers are known for being night owls!).

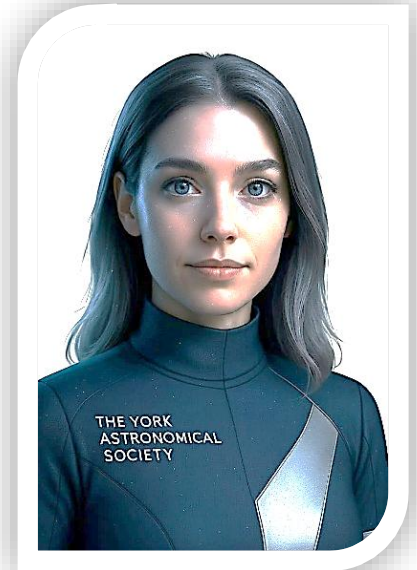
Nova is different. She is available 24/7, 365 days a year, ready to guide both long-standing members and curious first-time visitors through the vast amount of information available on our website – <https://yorkastro.org.uk>

How Nova Can Help You

We know that navigating a website to find specific details can sometimes be as tricky as star-hopping through a faint constellation. Nova acts as your personal guide. Instead of clicking through multiple menus, you can simply ask a question in plain English on our website and Nova will fetch the answers for you.

Here are just a few things Nova is ready to help you with:

- **Meeting Information:** Not sure when the next lecture is or who the guest speaker will be? Just ask, "*When is the next meeting?*" or "*What's the next meeting about?*"
- **Visitor Details:** For those looking to join us for the first time, Nova can provide directions to our meeting spots or observing sites as well as information on facilities we have available – from parking to a hot cuppa and a slice of cake.
- **Membership Queries:** Interested in joining the society? Nova can guide you through the subscription costs and the signup process.
- **Astronomy Basics:** Nova isn't just an admin assistant; she knows a bit about space, too. You can ask basic questions about what might be visible in the night sky tonight in York or general facts about the society's history.



Society for the History of Astronomy



Research Techniques Workshop

Saturday 26th September – 11:00 – 16:30



*In The John Peek Room
Birmingham & Midland Institute
Margaret Street, Birmingham B3 3BS
Doors Open 10:30*

*An opportunity to hone your research skills in the company of
some of the SHA's most experienced researchers*

Confirmed Mentors:

Peter Morris, James Dawson

Kevin Johnson, David Sellers

Booking in Advance at £10 per person for SHA members.

£25 per person for non-members.

Per-Booked Lunch Buffet £6.50 per person.

**More details and pre-booking only. Please Contact
SHA Meeting Secretary – meetings@shastro.org.uk**

Images: © BMI web site & Wikipedia Images Society for the History of Astronomy.

The Society for the History of Astronomy






Society for the History of Astronomy

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Research Techniques Workshop
Saturday 26th September 2026, Doors open 10:30
The John Peek Room, Birmingham & Midland Institute,
Margaret Street, Birmingham B3 3BS

Time	Speaker	Subject	Note
10:30 to 11:00		REGISTRATION	Tea & coffee and biscuits will be provided in the John Peek Room
11:00	Mike Frost: SHA Meetings Secretary	Welcome to the BMI & SHA Conference. Housekeeping etc.	Venue Health & Safety Notice.
11:00 to 11:30	Peter Morris	<i>How to write papers for The Antiquarian Astronomer (and other scholarly journals) and the Bulletin and e-news</i>	
11:30 to 12:00	Discussion	<i>Follow up on the preceding talk. Plus, a chance to discuss your own research.</i>	
12:00 to 13:00		LUNCH BREAK Delegates' pre-booked Buffet Lunch in the John Peek Room.	The BMI has also excellent café which has been opened for to-day's meeting.
13:00	Welcome back	Welcome back	
13:00 to 14:00	James Dawson, followed by Discussion	<i>Online searches. Including:</i> <ul style="list-style-type: none"> • <i>County archives</i> • <i>Archive.org for books</i> • <i>WorldCat to find books and subject listings</i> • <i>Advanced Google searches</i> 	
14:00 to 15:00	Kevin Johnson, Followed by Discussion	<i>Contributing to the SHA County Archive</i>	
15:00 to 15:30		AFTERNOON REFRESHMENTS in the John Peek Room.	
15:30 to 16:30	David Sellers, followed by Discussion	<i>Choosing and Developing a subject</i>	
16:30 Approx	Mike Frost: SHA Meetings Secretary	CONCLUSIONS & DISPERSAL	Safe Journey home

All times and speakers are subject to Change.

Please Book in advance, at £10 per person for members, £25 per person for non-members,
 Pre-Booked Buffet Lunch £6.50 per person.

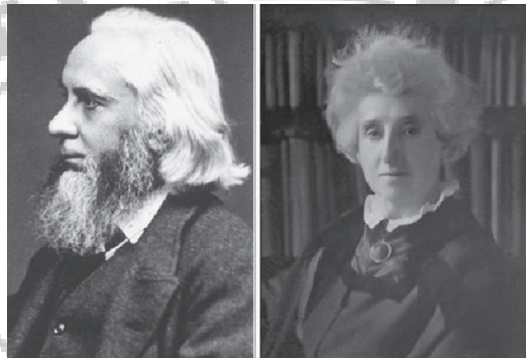
To pre-register use booking form attached or contact meetings@shastro.org.uk

Society for the History of Astronomy



Online Zoom® Webinar

*“Reaching Across the Gulf of Space:
The life and work of William and Margaret Huggins”*



Presentation by Mr Hugh Allen

Sir William Huggins was the Victorian pioneer of astronomical spectroscopy, allowing us to understand the true nature of stars. The talk is a celebration of William's life and the contribution of his wife and scientific collaborator Margaret Huggins. Using extracts from William and Margaret's scientific papers and correspondence, illustrated with some of the speaker's own astronomical spectra, the talk will bring to life the birth of astrophysics.

Hugh is an industrial chemist with a lifelong interest in amateur astronomy. He is Chairman of the Wells & Mendip Astronomers and a member of the Herschel Society and the BAA. He is a regular speaker keen to share a passion for astronomical spectroscopy.

Wednesday 14th October 2026 at 8pm (BST)

Zoom link details will be made available to SHA members near to date.

Please contact: - meetings@shastro.org.uk

*Image & Spectrum credit with thanks to © Hugh Allen.
Portraits of William & Margaret Huggins – Courtesy timeline.com
Spectrum of Cat's Eye planetary nebula NGC6543.*




The Society for the History of Astronomy

Society for the History of Astronomy

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2026 Annual General Meeting & Conference
Saturday 7th November Doors open 09:30
The Lyttelton Theatre, Birmingham & Midland Institute,
Margaret Street, Birmingham B3 3BS

Time	Speaker	Subject	Note
09:30 to 10:00		REGISTRATION & Second-hand book sales open. SHA booklets on sale. SHA Library open for Members.	Tea, coffee and biscuits will be provided
10:00	Ms Carolyn Kennett FRAS: Chair, SHA	Welcome to the BMI & SHA Conference/AGM Introduction & Housekeeping etc.	Venue Health & Safety Notice.
10:10 to 11:00	2025-26 A.G.M.	<i>Yearly Reports, Review of the Year, Election of Council members.</i>	
11:00 to 11:55	Gurbir Singh Salford Astronomical Society.	<i>Dr Allan Chapman, a friend, a mentor, and a Paradox: The man of faith who taught me Science</i>	
11:55 to 13:15		LUNCH BREAK Delegates pre-booked Buffet Lunch BMI Café is also open today.	Buffet lunch provided
13:15	Ms Carolyn Kennett FRAS: Chair, SHA	Welcome back	
13:20 to 14:15	Ross Code Royal Observatory Greenwich.	<i>Goings on at the Observatory</i>	
14:15 to 15.10	Bill Barton SHA & BAA	<i>The Astronomical Society of India</i>	
15:10 to 15:30		AFTERNOON REFRESHMENTS	Tea, coffee and cakes will be provided.
15:30 to 16:25	George Seabroke University College London	<i>Keynote lecture: Francis Baily and his Star Catalogue</i>	
16:30 Approx	Ms Carolyn Kennett FRAS: Chair, SHA	CONCLUSIONS & DISPERSAL	Safe Journey home

Please note that times and speakers are subject to Change.

Please Book in advance, at £20 per person for members, £25 per person for non-members,
 Pre-Booked Buffer Lunch £6.50 per person.

To pre-register use booking form attached or contact meetings@shastro.org.uk

Mid-Kent Astronomical Society



**Our meetings are held at Bredhurst Village Hall.
Unless otherwise stated, meetings normally open at 7:40pm for an 8pm
start, finishing around 10pm.**

We look forward to seeing you there.

12 June

Jonathan Clough - Kristian Birkeland; The father of Northern Lights knowledge

Birkeland worked out what causes the Northern Lights from his observatory near Alta, Norway, and was nominated for a Nobel prize 7 times. He was Norway's most celebrated scientist and father of Northern lights understanding.

26 June

David Southwood - A Decade as an ESA Director

Prof Southwood was Director of Science and Robotic Engineering of the European Space Agency from 2001-2011 and in his talk will share his memories of the projects that he supported (and cancelled!) during that time.

10 July

Georgia Richardson - How we can see the invisible: imaging Black Holes

This talk will explore how the Event Horizon Telescope combined radio telescopes across the world is used to image the supermassive black hole at the centre of the galaxy M87. It will describe what the famous image shows, why it looks the way it does and how modern machine learning techniques were used to reconstruct and sharpen the image from incomplete data.

31 July

MKAS – Summer Social

Salads, burger rolls and ketchup, will be provide and the barbeque lit ready for you to cook the food you bring. Feel free to bring along some accompaniments to share. There will be a quiz and music to add to the occasion. Family and friends are welcome to attend.

No admission charge for Members, but visitors will be asked to pay the standard meeting fee.

See [EVENTS](#) page of our website for details of our events

www.midkentastro.org.uk/events



Loughton Astronomical Society

Discover the wonders of the universe with the LAS - West Essex's community for astronomy enthusiasts and sky watchers of all levels. Our society is dedicated to exploring the night sky, sharing knowledge, and igniting a passion for the cosmos. We offer a welcoming space for both novice stargazers and experienced astronomers to connect and grow.

LAS Meetings are held on Thursday evenings in Scout Hall, Theydon Bois. CM16 7JY.

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

4 June

Ben Evans

Remembering Challenger's Life and Lives

Speaker website:

<https://www.americaspace.com/team/ben-evans/>

12 June

AstroKyds

AstroKyds is the junior astronomy group of the LAS.

6:30-8 pm at St Mary's Church Hall

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

18 June

LAS Members leading Solar Observing

Celebrate the Summer Solstice - safe viewing of the sun in white light and Hydrogen alpha.

Titbits & Miscellany evening if cloudy.

25 June

LAS Members leading Solar Observing

Another chance for safe viewing of the sun in white light and Hydrogen alpha.

Titbits & Miscellany evening if cloudy.

2 July

Malcolm Zack and Jonathan Daniels

Summer Skies - A view of what can be seen in the night sky with binoculars and telescopes.

10 July

AstroKyds

AstroKyds is the junior astronomy group of the LAS.

6:30-8 pm at St Mary's Church Hall

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

16 July

William Joyce

Astrobiology: The Search for Advanced Life in the Galaxy.

Speaker website:

<https://astrospeakers.org/provider/william-joyce>

23 July

Dr Radmila Topalovic

Eyes on the Skies, from Earth to Space

Speaker website:

<https://radmilatopalovic.wixsite.com/cosmos/about>

30 July

Andrew Lound

A Starry Night to Remember.

Speaker website: <https://www.andrewlound.com/>

01 August (Saturday)

LAS Members at Toot Hill Show

Join LAS Members at the Toot Hill Show for safe viewing of the sun in white light and Hydrogen alpha.

06 August

Professor Susanne Schwenzer

13 Years and Counting: the Curiosity Mars Rover's journey though Gale Crater

12 August

LAS Members observing partial eclipse

Join LAS Members observing the 91% partial eclipse from 18:15 to 20:10.

Locations to be advised.

13 August

LAS Members Perseid Watch

27 August

Nick James

Interstellar Comets



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 June that will be on 2 June and the speaker on the third Tuesday, 16 June 2026, will be Dr Jiachen Jiang from Warwick University with a talk called "Black Hole Astronomy 101". Please note that the speakers usually start quite promptly at 8pm.

Club Nights offer more information on what to look out for each month. If it is clear we do some observing just outside the Village Hall, so please join us. There is no charge initially to come along and find out more, but if you do want to become a member then the fee is just £20 a year and it's free if you are in full-time education.

For more details go to the website <http://www.astro.org.uk> or contact the Chair, John Waller, john.waller@astro.org.uk or on 07703 192188.

Happy Observing!



Hertford Astronomy Group

Forthcoming Meetings

Wednesday 10 June

Louise Devoy – Royal Observatory Greenwich
A History Through Objects

Meetings are held at:
University of Hertfordshire, Lindop Building, College Lane, AL10 9AB
and are also broadcast via Zoom.
Meetings start at 8:00pm

Full members are also welcome to join our Astrophotography meetings held on the 4th Wednesday of the month at the same location, and our Observing group sessions.

For more details, please visit our website: www.hertsastro.org.uk
or follow us on Facebook or Instagram @hertfordastronomygroup
Past recordings of meetings can also be found on our YouTube Channel "Hertford Astronomy Group".

In 1926 Robert Goddard launched the world's first liquid-fuelled rocket. Celebrate the 100th anniversary with a special presentation from space expert, broadcaster and author **Jerry Stone FBIS FRAS**

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Young Astronomers UK

A Request for Volunteers

The *Young Astronomers UK* organisation came about from a need to encourage children to take a more active role in astronomy, with the ultimate aim of attracting them into local astronomical societies. Many current societies have ageing memberships and, without an influx of younger members, a long term sustainability which is under threat; the ultimate survival rate – if not challenged and addressed – may eventually result in a large number of astronomical societies simply ceasing to exist.

The concept of *Young Astronomers* involves the formation of local societies comprising the younger generation (typically aged between 7 and 16), with each of these groups going under specific titles such as ‘York Young Astronomers’, ‘Bradford Young Astronomers’ and so on. This is intended to give them their own ‘identity’ rather than being ‘part of something else’, such as a ‘junior section’ or similar of a adult-based society. Each of the ‘local’ Young Astronomers groups would organise their own meetings, visits and other activities and would be run completely independently of their local astronomical society.

Although the individual Young Astronomers groups will be scattered across the UK, this will be under the guidance and support (as and when needed) of a central resources unit known as *Young Astronomers UK*. This central unit will provide individual children’s groups with an integrated information matrix to which all UK-based Young Astronomers will have free access. In other words, *Young Astronomers UK* will be the pre-eminent national astronomy organisation whose remit is solely to promote local groups of Young Astronomers and in doing so hopefully, maintain, cherish, and preserve the existence of local astronomical societies, the very cornerstone of amateur astronomy.

The popularity of *Young Astronomers UK* is steadily increasing, although in order to achieve our goals we are in urgent need of volunteers to help run the *Young Astronomers UK* central unit and to bring the whole concept to fruition. The roles we urgently need to fill are those of Treasurer; Media Secretary; Advertising Sales Coordinator; Fundraiser; and Zoom Meeting Host.

We require that all applicants reside within the UK. However, as most (if not all) of the duties entailed by any of the above-listed roles can be carried out online, your precise geographical location would probably not be important. If you are interested in taking on any of the above-listed positions, or would like further details of what each/any of the roles entail, please contact Brian at stars@starlight-nights.co.uk

Also, if you would like a copy of the Young Astronomers UK ‘Aims and Objectives’ leaflet please contact Brian at the above email address.