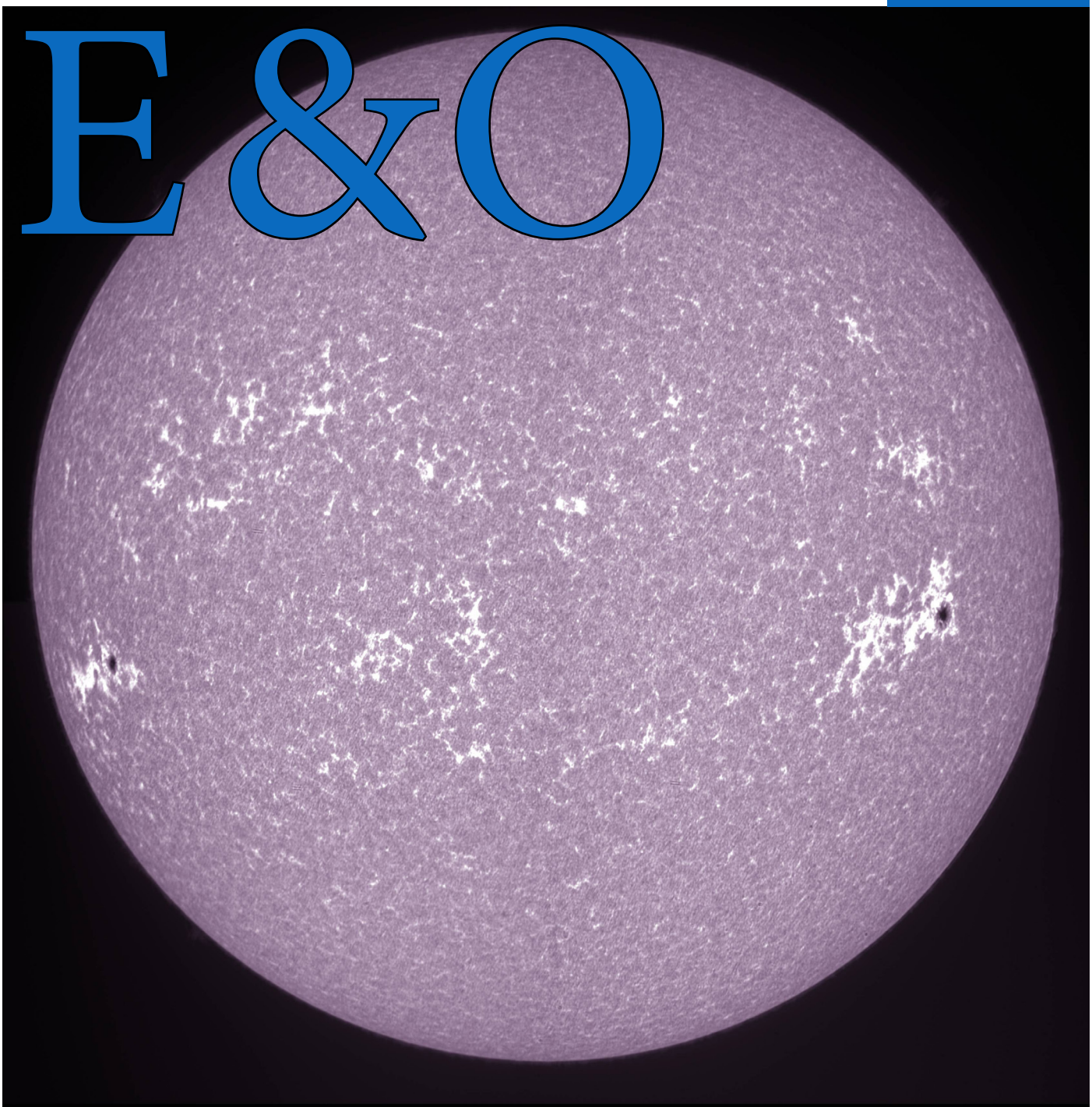
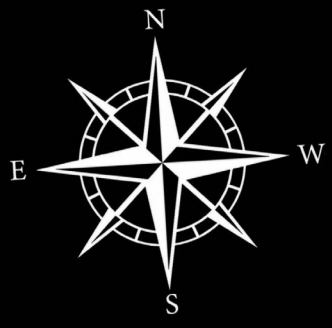
The Quarterly Newsletter of the Education and Outreach Section of the British Astronomical Association

Issue 7 2026 August

E&O



Sun in Calcium II K at 393.4 nm
14th July 2026 @ 12:18 UTC
Team Plasma
Altair Astro 72 at 43mm
Modified Lunt CaK Module
2.7x Barlow, Basler acA2440
9 Pane Mosaic



From the Editor

Alexandra Hart

Coming up in this edition of the newsletter, we have an incredible selection of articles showcasing everything you've been doing this spring and summer.

It has been wonderful reading about what everyone has been up to, and I encourage you to keep sending in your updates. Please email EandO@britastro.org with "Newsletter" in the subject line before **31st October 2026** to be included in the next edition.

The newsletter not only helps us learn about each other's activities but also serves as a valuable record of our collective successes. If everyone wrote a short diary of the events they held, how many people attended, stories from the day—and submitted it to the newsletter, we'd have a fantastic archive of our work.

So please, write up your event diaries as you go, and submit them before the next deadline. That way, everyone can read about the joy you're spreading and feel inspired to keep going.

If you have any other articles you'd like to contribute, such as how-to guides, educational content, event advertisements, volunteer requests, or anything else others could benefit from; please send them in!

Coming up in this newsletter we have:

On the cover: Image of the Calcium II K Sun captured and processed by Team Plasma using Stuart Green's telescope in Preston during the BAA Work Experience week (see p.4).

Dates for your diaries:

E&O Section Zoom get together – 19:30 BST Thursday 29th October 2026

Next deadline for article inclusion in the autumn newsletter **31st October 2026**

Enjoying the newsletter and being part of the Section, but not yet a BAA member?

Why not take the next step and join the British Astronomical Association!

As a member, you'll gain access to a vibrant community of observers, talks, and resources that help you deepen your interest in astronomy, education and outreach — and your support helps expand the work we do together.

Join today: https://britastro.org/join

Need a Speaker for Your Event?

Looking for an engaging speaker for your next astronomy-related event? Be sure to check out https://astrospeakers.org. It's a great starting point for finding speakers with a passion for astronomy and space science. Or, why not add yourself to the list!

You could also consider joining the STEM Ambassador programme. It's a great way to get involved in outreach and inspire the next generation of scientists. Learn more and sign up here.

Welcome from the Section Director

Helen Usher

Welcome to another edition of the E&O Section newsletter. Thank you again to all our contributors and Alexandra Hart for pulling it all together. We have a few less articles this time (but lots of promises for next time), I think everyone is busy preparing for the eclipse! So, we are expending a bumper edition next time. We do still have an interesting edition for you though.

I have had a very busy few months (while trying to complete the write up of my PhD thesis, so apologies if communication has been rather slow).

I attended the FAS conference in Cardiff on 27th June, and enjoyed chatting to lots of society members, FAS officers and other exhibitors (more details later). We used the Section Meeting on 2nd July to discuss how some of the themes that emerged from the FAS discussions could be taken forward, particularly developing activity packs. It was great to share the experiences of those who are engaged in local society outreach, learn about the way they are adapting resources to be more easily used for different audiences and contexts, and how we might share and further develop these. What was particularly encouraging was that some section members volunteered to start working on the practical elements of this.

The other (very) big activity for me was leading the second BAA Work Experience Programme from 14th – 17th July. Again, more details later in the newsletter, but it was a rewarding week working with BAA volunteers to deliver a practical introduction to astronomical observation, analysis and research for 18 Year 12 (17-year-old) students from 11 schools. Given the usual gender (un)balance in astronomy, I was particularly pleased that we attracted 7 female students, most of whom are keen to study astrophysics at university. The feedback has been excellent, and we've already got students named as co-authors on three research publications. As important, we've got students really keen to keep working with the BAA in the future. A big 'THANK YOU' to all those who helped make this happen – whether through direct delivery, or just encouragement and support.

BAA Work Experience Week 13-17th July 2026 - Publications

We ran our BAA Work Experience project a few weeks ago with 18, 17-year-old students from 11 different schools across the country (virtually).

One of the targets we have been observing is Comet 433P which is an alternative name for asteroid 248370. Students have observed that it has a tail again and so is active. Another research paper with students and schools included is being drafted. We've had loads of brilliant feedback from the students, including this one when I sought permission to use someone's name in a research paper: 'HOW EXCITING!!! I also wanted to thank you again for this wonderful opportunity. Never in a million years would I have thought to be doing stuff like this!'

We have the first published research from the Work Experience now - student observations showed a new fragment of comet C/2023 R1 so we've alerted the comet science community.

The second research publication - 6 more students are now published researchers. They made observations of Comet 259P which were then used by our partner researchers in the US.

And the third paper - our students will think getting research papers is easy! This one includes four students from the Work Experience last year who have been observing with me all year, as well five students from this year.

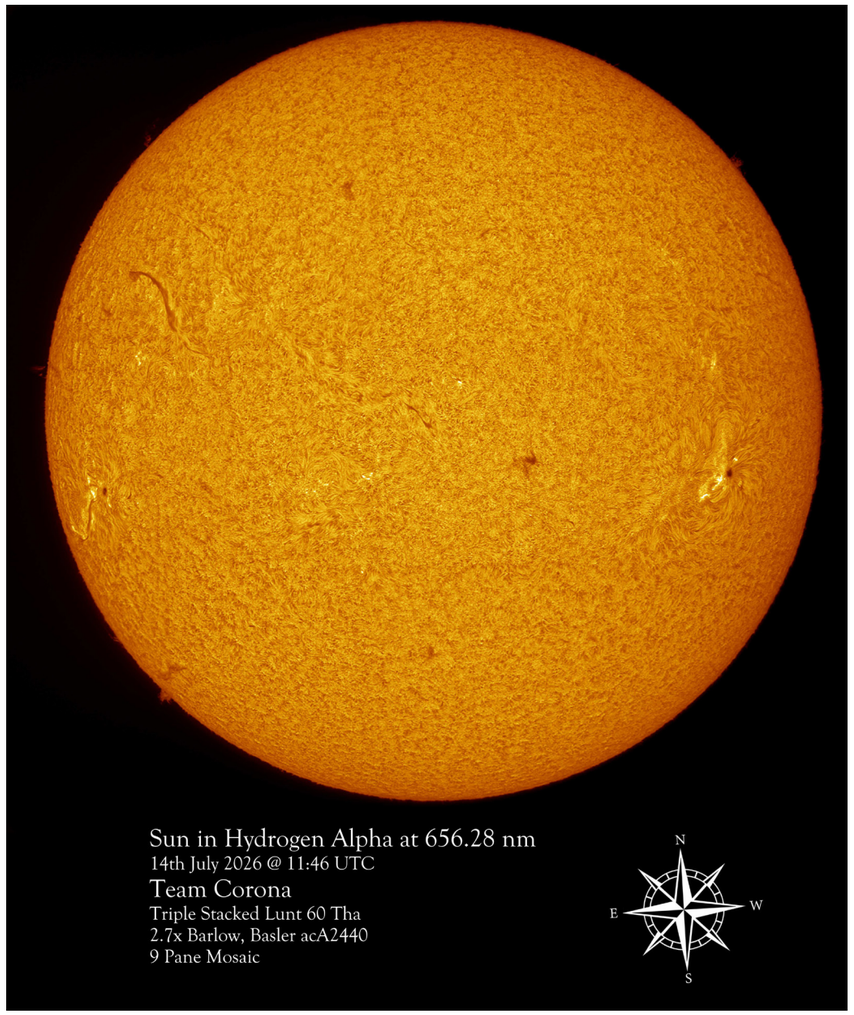
Shout out to the team who helped deliver the work experience this week: Paul Roche, Sarah Davies, Stuart Green, Grant Bowskill, Philip Jennings, Jenifer Millard - it wouldn't have been possible without you all! *Continued on p.16* □

2026 BAA Work Experience Workshop

Stuart Green

When Helen asked for volunteers to help facilitate the 2026 BAA Work Experience Workshop, I put myself forward without really knowing what to expect. What I received in return was an experience that will stay with me for a very long time. At 63 it has been a long, long time since I was last involved with anything to do with school, college or university education. I finished my PhD way back in 1987 and since then I had been engaged in an industrial career up until I took early retirement during COVID. Sure, I helped and supported my daughter as she progressed through the educational pathway, but never had I been involved with teaching. Industrial technical presentations are just not the same thing.

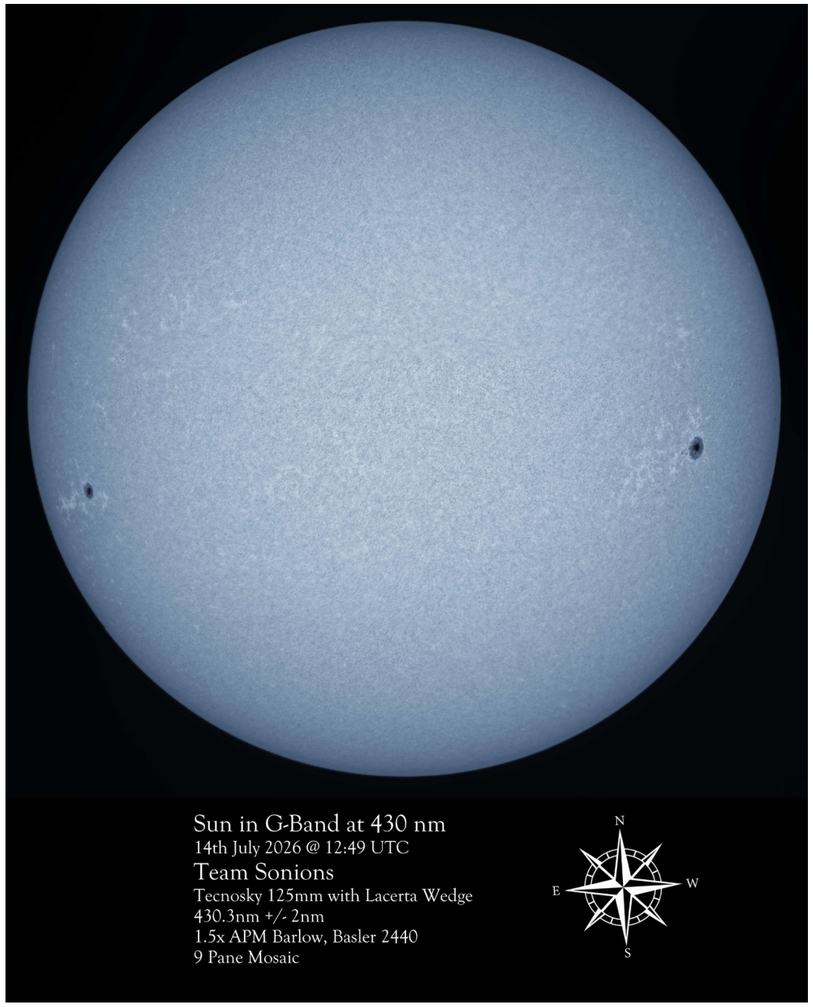
I've always been interested in science and technology. Even as a child I would lay on my back in my parent's garden, under what were then beautiful dark skies, and wonder about our universe and our place in it. When Neil Armstrong took his historic first step for mankind I was only 6 years old, yet I was spellbound. As the years passed, 'things' got in the way…other hobbies, education, work and it wasn't until I got into my late 40's that I finally took up the hobby of solar observing with a little Coronado Personal Solar Telescope (PST). I was instantly hooked by the beauty of our star and wanted more. Next came larger scopes, more capable equipment with which to image the Sun and a global support network in the form of 'SolarChat', replete with wonderfully enthusiastic and helpful people there on the 'Charlie Bates Solar Astronomy Project' forum. It was on this forum where I learned my craft and met expert solar astronomers such as Alexandra Hart and others. I'm mentioning all of this as it is relevant to how I got involved with Helen's workshop. Having developed some skills, learned more about the science behind our nearest star and after joining the BAA's Education and Outreach section through my contact with Alexandra, I felt I was in a good position to put myself forward when Helen put out the call for volunteers. I'm glad I did.



My role in the workshop was to talk about the Sun, describe its structure and observable features, and then provide an introduction to solar imaging together with image processing. This was delivered in four parts, involving two PowerPoint slide deck interactive presentations, a live viewing session and a live image processing demonstration. All of this was conducted via Zoom as the students and deliverers were all working remotely. I was a little bit nervous about this; not the speaking bit, but worrying about the technology holding together long enough to get through everything required. Zoom call dropouts are not unknown to my network and I had never hooked up to the network from my telescope before. A strategically positioned network booster helped solve that issue.

Interacting with the students at first felt a little 'clunky' as it had been a while, as I said at the start of this piece. I felt really old and detached from these youths who were approaching the start of their careers, as mine had ended in retirement. However, those feelings faded as the week progressed. I could sense the student's growing enthusiasm for the programme as a whole, especially when they got to control large telescopes across the world and one even made an important discovery about a comet that Helen will no doubt describe. As for solar observing, the students created a set of three full disk images across the spectrum remotely from my driveway and processed them ready for publication on the BAA solar gallery. They also got to control solar telescopes in Spain thanks to Grant at First Light Optics (FLO) which I think they found really interesting and quite a thrill.

I found the whole experience extremely rewarding. Sure, it was a lot of work preparing the presentations and a little nerve-racking, hoping it would all come together without any technical glitches, but it did and it worked out just great. The reward for me was TO BE INVOLVED and share in a small way MY enthusiasm for a hobby I love. I'd recommend to anyone to do the same and offer their valuable knowledge and experience to the next workshop. You'll be glad you did. ☐



Three images capured and processed by the Work Experience Teams during the workshop. Team Plasma (front cover), Team Corona (left) and Team Sonions (right).

Using Orbital Radar for Outreach, Observing and Learning

Mark Williams
Founder and architect of OrbitalRadar.com

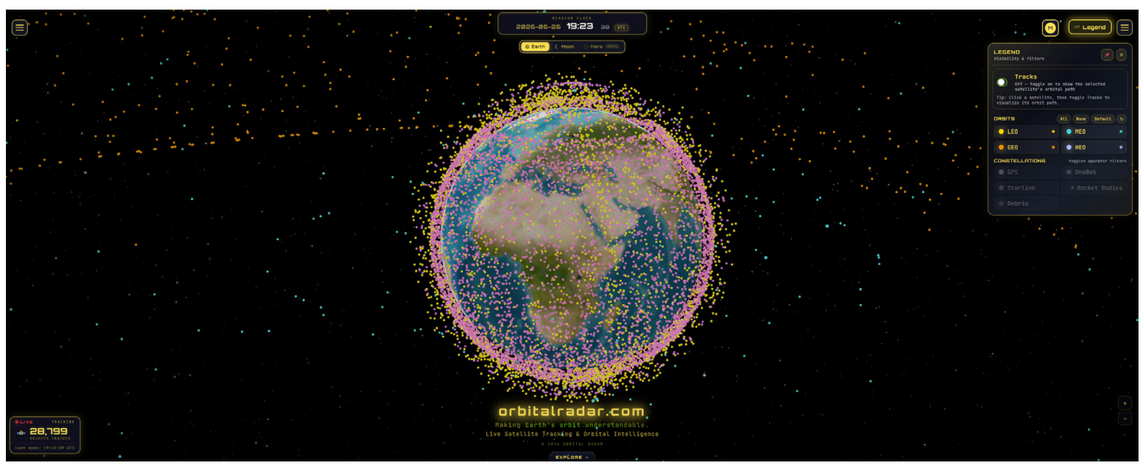
Most people have seen the International Space Station cross the evening sky, but far fewer have had the chance to visualise the wider environment it moves through. Earth orbit is now home to operational satellites, spent rocket bodies, fragments of debris, space stations and rapidly growing commercial constellations. The numbers can sound abstract, but when you see those objects moving around the planet in real time, the scale of human activity above us becomes much easier to understand.

That was the motivation behind **Orbital Radar**, a live satellite-tracking and orbital-awareness website I built to help make Earth's orbit more accessible to the public, educators, outreach providers and interested amateurs.

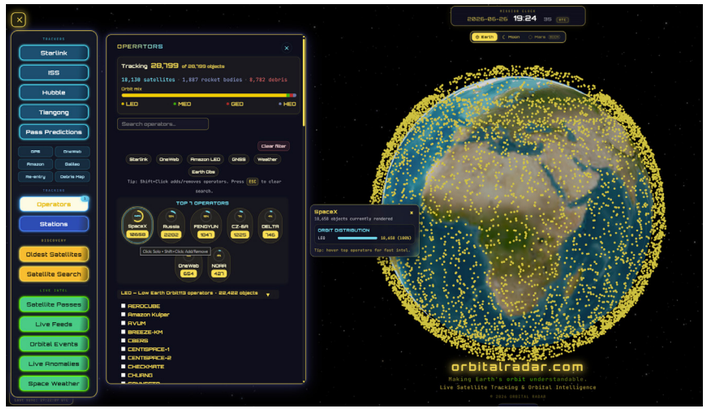
Orbital Radar began with a simple mission: to make Earth's orbit understandable. After years working around satellite communications and engineering, I became increasingly struck by how little attention is paid to the environment just above our heads. Satellites support navigation, communications, weather forecasting, emergency response, scientific research and much of modern life, yet the orbital environment itself often remains invisible to the public. I wanted to build something that could bring live satellite data, orbital visualisation and accessible explanation together in one place — useful for people who already understand orbital mechanics, but also approachable for a school group, an astronomy society, or someone who has just seen a strange moving light in the sky and wants to know what it was.

The main live globe shows satellites and other tracked objects moving around Earth in real time. Objects can be explored by orbit type, operator, country, constellation or category. Low Earth orbit objects sweep rapidly around the planet, while geostationary satellites appear almost fixed over the equator. For outreach, that simple visual comparison is very powerful. It shows why different orbits exist, why altitude matters, and why not all satellites behave the same way in the sky.

One of the most striking views is the contrast between individual spacecraft, such as the ISS, and the large commercial constellations now occupying Low Earth orbit. Seeing Starlink and other constellations displayed visually can be quite an eye-opener. It does not need to be presented in an alarmist way, but it does open the door to useful discussions about astronomy, communications, broadband access, satellite trails, orbital debris and the long-term sustainability of near-Earth space.



The live globe gives an immediate sense of the number, speed and distribution of human-made objects around Earth.



Large constellations make the changing scale of Low Earth orbit immediately visible.

The site also includes more practical observing tools. The Satellite Pass Predictions page is designed for people who want to know what they can see from their location. It provides visible passes for objects such as the ISS, Tiangong and Starlink, with timing, direction, brightness estimates, elevation and countdowns. This is particularly useful for outreach evenings, where a predicted ISS pass can become a memorable shared moment. For many children, seeing the ISS glide across the sky is as exciting as a first view of Saturn through a telescope.

There is also a guide called What Is That Light in the Sky? which is intended for the very common public question: "I saw something moving overhead — what was it?" It helps distinguish between satellites, aircraft, planets, meteors, Starlink trains, satellite glints and possible re-entries. For outreach providers, that kind of simple identification tool can be a useful bridge between casual skywatching and more structured astronomy learning.

Visible satellite passes are a practical way to connect public curiosity with real orbital data.

Orbital Radar is not only about satellites passing overhead. The site also includes a live Space Weather section, showing solar activity, geomagnetic conditions, aurora outlook, solar wind and related impacts. This connects naturally with astronomy outreach because it links the Sun, Earth's magnetic environment, aurora, satellite drag, radio disruption and observing conditions. A geomagnetic storm is not just a number on a scale; it can affect aurora visibility, satellite behaviour and, at stronger levels, technologies we rely on.

Another useful educational feature is the Launch Database, which allows users to explore orbital launches from the beginning of the space age through to the present day. This provides a historical route into the subject: Sputnik, Apollo, Soyuz, Shuttle, commercial launch systems and the recent acceleration in launch cadence can all be discussed through one timeline. For schools or societies, it can support simple questions such as: how has launch activity changed over time, which countries and organisations launch most often, and how many spacecraft can be placed into orbit by a single modern launch?

I have also started extending the same idea beyond Earth orbit. The Moon tracker provides a live lunar globe with orbiters, landing sites, lunar features and Artemis-related regions. It is intended to make the Moon feel like an active world, not just a distant object in the eyepiece. Visitors can explore Apollo and robotic landing sites, lunar orbiters, the day-night terminator and regions of current scientific interest such as the lunar south pole. For outreach, this can sit neatly alongside a practical Moon observing session.

These tools also sit alongside Orbital Academy, a growing collection of accessible guides covering the concepts behind what visitors are seeing, from orbit types and satellite behaviour to debris, re-entries and space weather. For outreach, this helps turn a live view or observation into a broader learning opportunity.

A few simple projects can be built around the site.

One is to compare orbit types. Ask a group to watch Low Earth orbit, Medium Earth orbit and geostationary satellites, then describe the

Orbital Radar also connects satellite tracking with space weather, launch history and lunar exploration.

differences in speed and position. This quickly leads into why weather satellites, GPS satellites, communications satellites and space stations use different orbital regimes.

Another is to follow the ISS for a week. Observers can compare predicted passes with what they see, recording time, brightness, elevation, direction and weather conditions. This is a good practical exercise because it combines orbital prediction, naked-eye observing and critical comparison with real conditions.

A third project is to investigate satellite constellations. By looking at Starlink or other grouped systems, students can discuss why many satellites are needed, how they are arranged, and what the benefits and drawbacks might be for communications, astronomy and orbital traffic management.

A fourth is to explore space debris. Turning on debris and rocket bodies makes the issue visible straight away. It encourages questions about what debris is, how long objects remain in orbit, why some re-enter quickly, and why others can persist for decades.

One feature I am particularly keen to develop with input from experienced observers is satellite transit prediction. Orbital Radar now includes live transit tracking for events such as ISS solar and lunar transits, although I would still describe this as being in an active testing stage. These events are especially demanding to predict because the ground track can be extremely narrow and the timing needs to be precise. For that reason, feedback from observers who regularly image or attempt ISS and satellite transits would be very welcome. My aim is to make the tool useful not only for casual visible passes, but also for more challenging observing projects where location, timing and preparation really matter.

For me, the wider purpose of Orbital Radar is not just to show dots moving on a globe. It is to make the space around Earth feel understandable, observable and connected to everyday astronomy. Satellites are now part of the night sky. They can inspire, they can occasionally frustrate observers, and they raise important questions about how we use the orbital environment. The more clearly we can see and explain that environment, the better those conversations become.

I would be very interested to hear how BAA members, outreach groups and observers might use Orbital Radar, and what features would be most useful for education or practical observing. The site is continually evolving, and feedback would be especially valuable. ❐

Orbital Radar can be found at:
https://orbitalradar.com

orbitalradar.com
Making Earth's orbit understandable.

Sun, Science and Daylight Venus: Young Astronomers' Solar Day - 28th June 2026

Gerard Gilligan

Liverpool Astronomical Society (LAS) held a special Young Astronomers' Solar Day at the LAS Leighton Observatory, Pex Hill, on Sunday 28th June 2026. Solar observations were carried out using a variety of specially equipped solar telescopes fitted with appropriate solar filters, under the supervision of experienced volunteers.

In addition to the live solar observing session, attendees received advice and information about the deep partial solar eclipse on 12th August 2026. Participants also captured images of the Sun using their mobile phones through the telescopes and, despite the daylight, successfully observed the planet Venus. ❐

Young Astronomers with West Yorkshire Astronomical Society (WYAS) at The Rosse Observatory

Amanda Clark

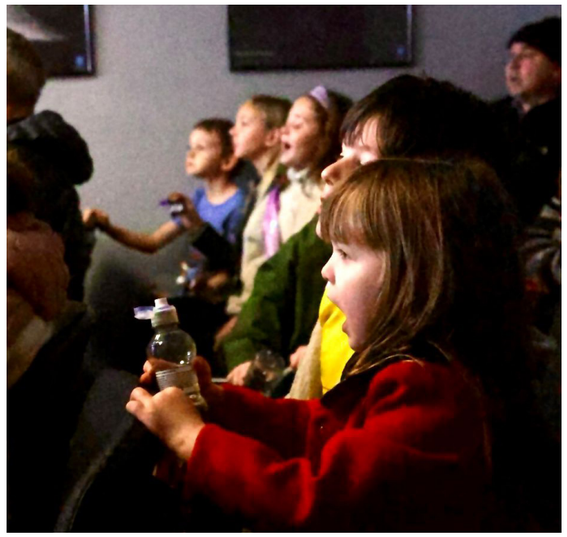
WYAS set up Young Astronomers in 2019. It had been on our wish list for a while, but with a fairly small space, what do you do with a group of children when it is cloudy or raining? Being situated in Yorkshire this is going to be the case more often than not!

We wanted time for them to view the skies and look through telescopes but also keep them engaged for the whole time if that wasn't possible. We decided to run it using a youth group format with a number of activities, including a snack break.

It is held for 2 hours on the last Friday of each month (except August and December). Children aged 4-12 years come with a parent/ grandparent/ guardian and over the years we have been able to get to know lots of them very well while attracting some new children each time. In the beginning, word of mouth proved a very effective way of advertising. After we had 90 children turn up for our fourth Young Astronomers, we instigated a booking system. We always run fully booked and, much to Terry's dismay, have to send out "Sorry we are full" emails every month.

Each month has a different theme with a talk or Power Point presentation and some crafts and experiments on that theme and a snack and drink break in between.

We use a large room in the Grange Community Centre next door for the crafts and experiments and with this we can accommodate 32 children and their adults. They are split into two groups with one group starting with the presentation in the observatory and the other group with the crafts and experiments. After a snack and drink they then swap over.



We have covered many themes over the years including the Solar System, the Sun, the Moon, Galaxies, Nebulae, constellations, life cycles of stars, black holes, rockets, Mars Rovers, Space Rocks, Living in space, looking for signs of life on other worlds and more. This last one was a good excuse to make slime based on the microbes growing on the ISS that do not exist on earth! They create a slime-like matrix to protect themselves from the hostile environment.

We have had the pleasure of guest presenters with Prof. Brad Gibson, Dr Sue Bowler of the RAS and a fantastic session on Comets and space rocks with Helen Usher.

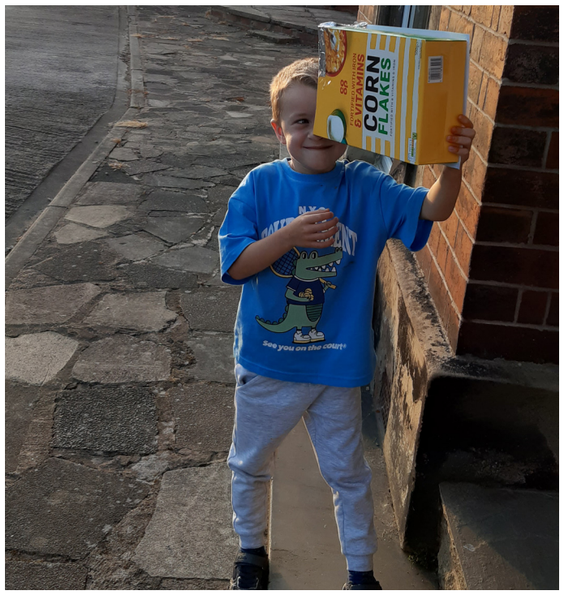
This July we looked at the Sun and Solar Eclipses looking forward to the partial solar eclipse on 12th August 2026.

Mark, one of our members, gave a presentation on the Sun, solar eclipses and how to view the Sun safely. The presentation was planned to be around 35 minutes but each one lasted longer due to the number of questions the children wanted to ask – or facts they wanted to share!

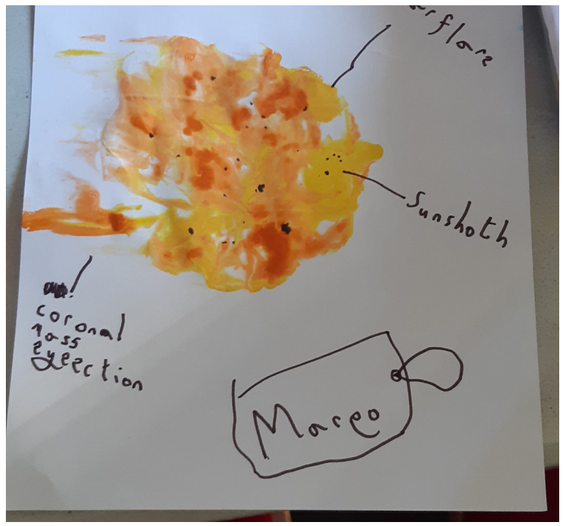
In the crafts and experiments room we had a variety of activities and they all get to make or try everything.

We tried to visualise the answer to the question: How can the Moon cover the Sun when it is so much smaller? We had a large inflatable Sun and a small polystyrene Moon. The children held the Moon and moved themselves to the correct distance when the Moon completely covers the Sun to show how even though they are different sizes the correct distance can create the conditions for an eclipse. We had to downsize this activity after Mark blew up… literally….my huge Sun balloon. Once in the room, after trying to blow it up a bit more with a vacuum cleaner on blow…it exploded! We had to use the smaller yoga ball.

We also made Solar Viewers out of cereal boxes and tried them out.



We made Sun art with shaving foam and food colouring, swirling it with a cocktail stick before printing on it with paper and scraping the foam off with a squeegee. We added and labelled sunspots and labelled solar flares and Coronal Mass Ejections.



We made solar eclipse models with paper plates and lollipop sticks so we could move the moon over the Sun.

Each child received a free pair of solar glasses to view the eclipse safely.

We have a feedback table and some comments we've received are:

"It was fun!"

"I loved it!"

"Best day ever."

"I had lots of fun!"

"Fantastic as always. Thank you for a brilliant night."

"Really informative, fantastic evening. I'm coming back!"

Although the number of volunteers we have is limited we thoroughly enjoy planning and delivering the Young Astronomer sessions. The crafts and experiments originally a Plan B for when the weather was too bad for viewing has become an integral part of the sessions. We have a young person who volunteers and another who has been coming for over 3 years and is now a bit old for the sessions has asked to volunteer for next year. It really feels like it has been a worthwhile adventure! ☐

The Adventures of Space and Time
by Karl P.J. Hobbes

The Adventures of Space and Time is an illustrated chapter book for readers aged 7 to 9, and the first in a new series. Space and Time are two best friends at the Faraway School of Discovery, a school you reach by rocket. Together they explore the mysteries of the universe, puzzle over how time really works, and set out to master the coolest game around, Galaxy Quest. When a quiet, mysterious new pupil arrives from Earth, the three of them take on the biggest Space-Time problem of all. Real science, the planets and the solar system, the light that reaches us from long ago, and why the night sky does what it does, is woven through a warm story about friendship and curiosity. A perfect summer holiday read for young stargazers. ☐

Solar Viewing Event at Bannau Brycheiniog (Brecon Beacons) National Park, Mountain Visitors Centre, Libanus, Powys

Edward Cooper

As in previous years Cardiff Astronomical Society (CAS) set-up solar scopes at the Bannau Brycheiniog NP Mountain Visitors Centre on the Saturday closest to the summer solstice. This year it was the 22nd June.

Views of the Sun were offered through eclipse specs, the solar scopes and indirectly through a Seestar Smart Telescope. Most people took advantage of all 3. In addition, there was a computer screen showing the Sun in real-time from a remote telescope, a useful option for occasions when clouds obscure the Sun locally.

There was a steady stream of visitors and as in past years we had an international audience; Italian, French, Cypriot, Dutch, Spanish, South African and English.

Young visitors were provided with educational booklets on the Sun produced and provided by STFC (Science Technology Facilities Council).

No doubt CAS will be on hand again next year (19 June 2027 tbc.) to share information and the opportunity to view the Sun.

As a postscript it is worth noting that the National Park have created some interactive interpretation boards which are located at the Mountain Centre that showcase sky maps at a particular location during the four seasons and highlights the effects of light pollution on nature.☐

Towpath tales

Alexandra Hart

The stretch of canal towpath just past bridge 5A and Venetian Marina on the Middlewich Branch of the Shropshire Union canal continues to provide an excellent setting for informal solar outreach for me. While the primary aim is to image the Sun or simply enjoy a visual session with the telescope, it is invariably the conversations with passers-by that make these outings so memorable.

On Sunday, 10th May 2026, conditions were encouraging, with around 50% cloud cover, and periods of moderate seeing. After setting up the Heliostar76 and beginning some solar imaging, I was approached by a lady walking her dog who lived nearby. She accepted an invitation to view the Sun through the telescope and was genuinely delighted, explaining that she had never seen the Sun through a telescope before. She remarked that it had "made her day," which is always rewarding to hear.

Our conversation naturally turned to the forthcoming 12th August partial solar eclipse. She was keen to observe it safely, so I gave her a pair of eclipse glasses, kindly supplied by First Light Optics, and explained the timing of the event. She even suggested she might return to the towpath on eclipse evening if I was observing there.

During June and July, the exceptionally hot weather noticeably reduced the number of people using the towpath. Dog walkers, joggers and cyclists became a much rarer sight during the hottest part of the summer, although they have slowly begun to return as temperatures have moderated. The prolonged dry spell has also taken its toll on the canal itself. Water levels have fallen significantly, resulting in the locks being closed daily from 3.00 pm until 9.00 am, which has greatly reduced the number of holiday hire boats passing through the area.

On Saturday, 1st August 2026, I returned to the area just past bridge 5A for an evening solar observing session. The Sun's altitude at around 1900 BST was comparable to that expected during the forthcoming eclipse (12th August), making it an ideal opportunity to rehearse both the equipment setup and public outreach.

Several interesting encounters followed. A young couple stopped to view the Sun on the computer monitor and were fascinated by the detail visible in hydrogen-alpha. Shortly afterwards I met a runner named James, who mentioned that he owned a small refractor but had not used it for some time. Our conversation seemed to rekindle his enthusiasm for astronomy, particularly as he now had a young child whom he hoped to introduce to observing the Sun safely.

He told me that, during his run, he had already enjoyed the unexpected sight of a stoat crossing the towpath. Seeing the Sun in hydrogen-alpha proved to be an equally memorable experience, and he commented that it had made his run one he would never forget. We discussed safe methods of observing the eclipse, and I gave him two pairs of eclipse glasses together with a leaflet listing the dates and times of upcoming eclipses over the next couple of years, calculated specifically for our local area.

These chance encounters are a reminder that astronomy outreach need not always take place at organised events. Sometimes the most rewarding moments occur simply by setting up a telescope in a public place and inviting curious passers-by to take a look. A brief glimpse of our nearest star can inspire someone seeing it for the first time, rekindle a forgotten interest, or perhaps spark a lifelong fascination in the next generation.

Now all that remains is to hope for clear skies on 12th August 2026. The towpath beyond bridge 5A would make an ideal location for eclipse outreach, but as every astronomer knows, the weather always has the final say. We will soon find out. ❐

E&O News

Royal Astronomical Society Small Grants Open for Applications - New Assessment Process

A new pilot continuous grant scheme has been introduced to improve the RAS grants application and assessment process.

Education & Outreach grants will be assessed **twice per year only**, in the March and September rounds.

Assessment Deadlines

- Round 1: 31st January
- Round 2: 31st March (includes E&O grants)
- Round 3: 31st May
- Round 4: 30th September (includes E&O)

Additional Guidance

· Applications submitted shortly after a deadline will be automatically considered in the next assessment round.

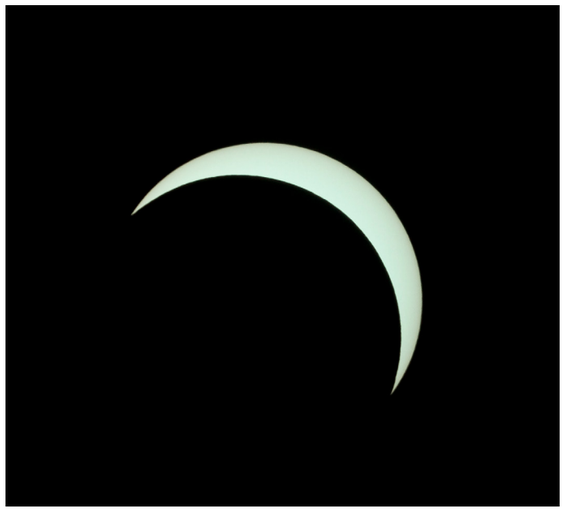
· As applications are assessed competitively within each round, outcomes may vary depending on the number and quality of applications received. Full guidance and application information can be found on the RAS website.

Please do not hesitate to contact if you have any questions. awards@ras.ac.uk

Partial Solar Eclipse - 12th August 2026

The Eclipse website developed by Go Stargazing and First Light Optics. Please use this fantastic site www.ukeclipse.com

It now contains a great deal of useful information. It includes a list of events, so if anyone is looking for somewhere to view the eclipse this is the perfect resource.



If you hold an outreach event, remember to take lots of photographs, write up your experience and submit it here EandO@britastro.org for publication in the next newsletter (deadline 31st October 2026).

Tactile Universe Frequently Asked Questions and Best Practice Guide

This document provides helpful guidance and practical tips for carrying out science outreach with visually impaired (VI) audiences. It covers topics such as answering common astronomy questions and creating 3D-printed tactile images, helping to make astronomy more accessible and engaging for everyone. Read the full document here.

This document is very much a work in progress, and is going to expand significantly based on your future feedback and experiences, as well as the feedback and experiences of those who the project is delivered to. If you think of anything that you really want to be added (e.g., a situation you keep finding yourself in, and don't know how to handle, a science question you keep getting but can't quite explain, or something you try out that works really well), just let us know and something helpful will find its way into this document.

Unsurprisingly, the way that many VI people learn is very different to the way that a sighted person does, particularly in areas like concept development. The following link quite succinctly highlights some of the issues that arise due to this, and how they can be tackled in a teaching environment.

https://iris.peabody.vanderbilt.edu/module/v02-successsight/cresource/q1/p03/

www.tactileuniverse.org

❐

BAA Work Experience Project Students 2026

"I loved all of it. I've done so many work experiences and I didn't get to get stuck in and learn so much as I did in this experience"

"I wanted to thank you again for this wonderful opportunity. Never in a million years would I have thought I would be doing stuff like this!"

"I wanted to say thanks for setting up such brilliant observation opportunities for us. It's the exact experience that's solidifying what I want to pursue at university.

If there are any other research opportunities with BAA or observation slots at LCO coming up, I'd love to be kept in the loop. I enjoy contributing to any science I can, so really keen to stay involved, especially with BAA!"

"Thanks guys, truly an insightful experience and really helped me delve deeper into the field of astrophysics and astronomy"

"I loved being an astrophysicist for a week you really inspired me to study it further"
"this work experience is engraved in me for the rest of my Astrophysics life-journey"

Helen Usher

They say the customer is always right. If so, then it seems fair to say that the BAA Work Experience was successful!

We based the programme for this year on last year's successful pilot, but increased the number of students to 18, and amended the delivery slightly so that for some activities the students worked collaboratively (and virtually) in three groups of six. Students came from 11 different schools, and (given the gender imbalance in astronomy generally) it was encouraging to have 7 female students. They all engaged, and we thoroughly enjoyed working with them.

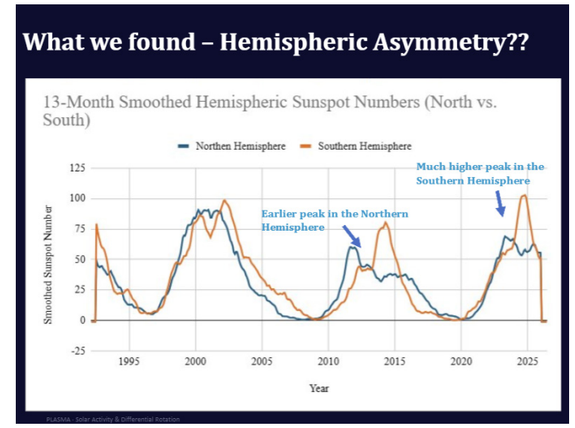
The aim was to give the students some experience of astronomy research. That involved some briefing sessions, practical observing sessions, data analysis, and collaborative work leading to a joint presentation on the last day. The briefing sessions, led by Paul Roche and Philip Jennings, included key skills such as undertaking research, identifying robust sources and recording references, keeping a research and observation log, data processing, academic writing and presenting, and applying to university.

The main area of study for the week was the Sun, given opportunities for live and remote observing, and the availability of large data sets for investigation. We were delighted that Stuart Green volunteered to help this year (you can read about his experience in this newsletter too), and Stuart provided briefing on the Sun, how we observe it, and how we process images.

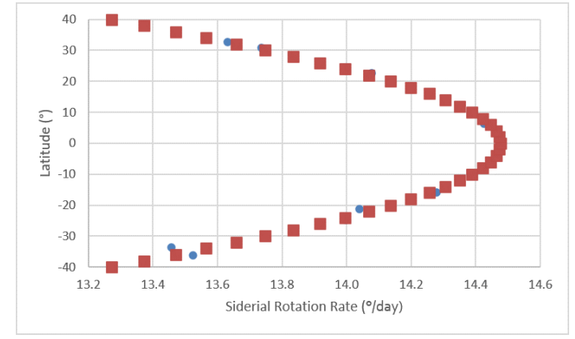
Students worked with Stuart Green and Grant Bowskill to make observations in different wavelengths – Stuart from his front drive in Preston! and Grant with the First Light Optics (FLO) solar telescope facility in Spain. (Andy Devey had also volunteered to provide live viewing from Spain, but sadly Andy was affected by the Spanish wildfires – thankfully the damage was limited to internet connectivity not to his house and observatory.) We're grateful to the DeepSpace2DeepImpact Project (DS2DI) - which is administered by Cardiff University and funded by the Science and Technology Facilities Council (STFC) - for providing access to the FLO facility, and to Grant for helping the students remotely control the telescopes and make their own observations, and also for preprocessing the datasets. Some students also gathered their own observations with Smart telescopes in their schools (we provided Seestars for schools where more than one student joined from their school - again supported by the DS2DI project).

The main data processing exercises used sunspot data. The first task was to explore the

solar cycle. We provided multiple data sets (daily, monthly, annually, smoothed, long-run, shorter run, hemisphere detail etc). While we suggested a data set to start with (mean monthly with hemisphere detail), we deliberately were not prescriptive - instead just providing a few prompt questions that they might wish to consider. They had freedom to decide in their groups what they wanted to investigate, with different team members then investigating different properties. These graphs and explanations would form a core part of their joint presentations at the end of the week. It was great to see how they also used their own observations, and images, in the context of the solar cycle.



The second data processing exercise was Peter Meadow's differential solar rotation exercise. Peter has developed a methodology for calculating differential rotation using a curated data set of Solar Dynamics Observatory (SDO) images, Helioviewer and Excel spreadsheets. As last year, the students found the exercise challenging but enjoyable, and it was excellent for building teamwork and effective collaboration. Teams decided to split the data processing amongst themselves, and problem solved each other's issues. They all demonstrated the differential rotation and included analysis in their presentations.



The handling of large data sets was new to the students, but after perhaps being slightly overwhelmed to start with, it was great to see them working together to share the workload, develop ideas, discuss findings and decide

which graphs to include in their presentations. We were always available on chat to provide advice and guidance.

Working collaboratively is always challenging, more so when working remotely with people you haven't met before on an unfamiliar topic! The students did brilliantly to coordinate and deliver their end of week presentations. We were very proud of them!

Whilst we used solar study as the core, we also wanted to give them experience of active research. So at the end of each day, we accessed the research-grade telescopes of the Las Cumbres Observatory (LCO) network. I'd booked three Real-Time-Interface 30 minute slots with the 2m Faulkes Telescope in Hawaii (through Faulkes Telescope/Schools Observatory). The weather was good for 2 of the 3 sessions (Group 2 was weather-ed out sadly) and students got to control the telescope live, choosing targets and seeing the results quickly. For most students this was a highlight of the week! We also gave them their own accounts on the Global Sky Partners proposal, which meant they had freedom to schedule observations with 0.4m telescopes across the world (a good way to use the unused telescope time left at the end of the semester).

M51 – The Whirlpool Galaxy with 2m telescope in Hawaii.

The scientific research element came when they worked with me to schedule observations of comets with the 2m telescopes in Hawaii and Australia. We had a list of interesting targets from our research partners and the BAA Comet section. Students have been observing the following:

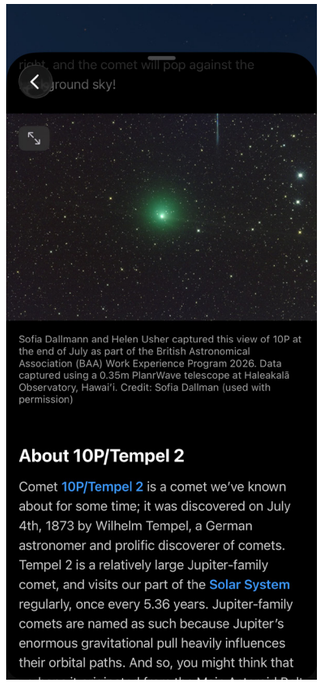
- Comet C/2023 R1 – which had fragmented. Working with Nick James in the BAA Comet Section we discovered a potential new fragment. This was VERY exciting for students. In the next few days we made more observations, confirmed the new fragment and produced an ATel (The Astronomer's Telegram) to alert the comet science community. The four student observers were co-authors of the ATel. We are continuing to monitor the comet and Nick is tracking the separation between the main fragment and the comet nucleus.

- Main Belt Comet/Active Asteroids 259P and 433P – working with Henry Hsieh in the Planetary Science Institute in the US to detect the latest re-activation of these bodies. Our observations demonstrated that both bodies are now active again and two Research Notes have been published in the American Astronomical Society (AAS) Journal. Students are co-authors on these papers. The 239P paper has six student co-authors. The 433P paper has nine student co-authors, with students from both last year's work experience and this year, as four students from last year have been working with me all year and 433P is an object we've been monitoring. The 2026 Reactivation of Main-belt Comet 259P/Garradd (2008 R1). The 2026 Reactivation of Main-belt Comet 433P/(248370) 2005 QN17 These two short papers will be supplemented by full research papers later in the year, and students will be co-authors on those papers too.

- Potential comet RMM2026 – this is an object picked up by Madeleine McLoud from Edinburgh University from Rubin data which might become the first reported comet discovery from Rubin. We've been asked to make observations to hopefully help with confirmation, these have been analysed by the LOOK team and submitted to Minor Planet Center (MPC) with the students who scheduled observations included as observers (no news yet though.

- Comet 220P – observations for Mike Kelley at University of Maryland, and BAA Comet section too, as the comet is showing very interesting activity.

- Comet 10P – and Sofia Dallman's image has been used in an article by Jeni Millard for the Sky Guide App (which is translated into 17 languages).



We wanted to provide a week that allowed skills' development, while being engaging and fun, and also hopefully provided the foundations for longer term collaborations. The feedback from students and their teachers has been fantastic. Using remote telescopes to gather data, particularly using the 2m telescope, was the highlight for almost all students. But what was encouraging was that when we asked about their least favourite part many said 'nothing', 'enjoyed it all' or gave caveated responses (e.g., 'the long presentations, but I enjoyed those too just not quite so much'). They also said they learnt skills like data analysis, scheduling observations, scientific writing, presentation, teamwork and collaboration that would be very useful. They appreciated the opportunity to talk about options for university and how to choose the best course for them. Seeing their names in print as co-authors or contributors has been very special for them – and we know they are excitedly sharing with their family, friends and work colleagues (and undoubtedly this will feature in university applications too!). That has encouraged many of them to ask about continuing to work with us. So, we look forward to that.

The design and delivery of the Work Experience week takes a lot of time and effort. It is a team effort, so thanks go to Paul Roche, Sarah Llewellyn-Davies, Philip Jennings, Stuart Green, Grant Bowskill, Jeni Millard, Robyn Burnett and Chris North. A particular thank you goes to Peter Meadows for all his hard work in developing the Solar Rotation exercise. The reactions from the students, as well as the science outcomes, make all the hard work feel very worthwhile.

We are already considering plans for 2027…. ❐

FAS Convention – Cardiff

Helen Usher

On 27th June 2026 I attended the Federation of Astronomical Societies' (FAS) Annual Convention, this year hosted by Cardiff University. It was my first time attending a FAS Convention, but I was looking forward to running the BAA stand and chatting to local societies about how we could work together to make our limited resources (particularly volunteer time) be more effective.

I wasn't expecting to present! But Paul Roche from Cardiff University had been asked to talk about the work the University does with STEM education. The BAA works with Paul on

one element of that work – the Comet Chasers project – and so Paul suggested that I do that part of his presentation.

For those of you who don't know, the Comet Chasers project engages students (from primary school upwards) in comet research. It works with international researchers to identify interesting comets, which are the subject of active research, and where extra observations would be useful. These targets are then notified to educators, with guidance on observing parameters, and students remotely schedule the requested observations with the research-grade telescopes in the Las Cumbres Observatory (LCO) network (25 telescopes – 2m, 1m, 0.4m). The access to these telescopes is through support from the Faulkes Telescope Project/Schools Observatory and LCO Global Sky Partners. Educators are supported by BAA members. Once the observations are made, they can be accessed by both students and the research scientists for analysis. If the observations are used for research, then schools/students get credited in the published research papers.

It was great to be able to announce at the event that the project, schools, and individual students (from last year's work experience project) had just been credited in a Nature paper on James Webb Space Telescopes (JWST) observations, which was the subject of a NASA press release. (Students had made supporting observations used for astrometry to ensure the position of the comet was well known, ensuring the comet was in the field of view of JWST.) As well as encouraging FAS members to suggest to their local schools that they get engaged in the project, we think there is an opportunity to expand the project to younger members of local societies. Having remote scheduling opportunities removes many constraints to observing: weather, time, equipment etc. I was pleased to link up with a few teachers and societies later in the day who are interested in taking this forward in the new school year.

Back on the BAA stand during the breaks, it was great to talk about outreach opportunities, and particularly an idea of partnering with local societies to develop activity packs for younger people. We had a demo of a pack looking at asteroids, and the feedback was very positive, with a number of societies saying they would be interested in getting involved. There was also a lot of interest in the Rotato demonstration, with societies saying they could see how useful it would be for demonstrating various astrophysical processes in an accessible, interactive and fun way.

I also chatted to the FAS President Clare Lauwerys, who is very keen on education and outreach activities, and we agreed it would be good to explore how we might work more effectively together. Overall, a very useful and interesting day chatting to like-minded people. ❐