

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



Issue 3 2025 August

E & O



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.

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 2025 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:

- ▶ **Welcome from the Section Director**
 - Section Online Get Together
 - A Guide to Delivering Effective Education and Outreach Activities
 - Vacancies
 - Funding Opportunity
 - International Astronomical Union (IAU)
- ▶ **Back to Basics – Cardiff 7th June 2025**
- ▶ **Reflections on My First B2B Event in Cardiff**
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 - WYAS and BAA Link Up for Young Astronomers Session
 - Seestar and Students
- ▶ **My Mobile Planetarium**
- ▶ **Sungazing on The Green - Part 2**
- ▶ **Towpath Tales – May to July 2025**
- ▶ **Helios at Dyffryn Gardens**

Welcome from the Section Director



Helen Usher

I'm delighted to welcome you to our third section newsletter. Thank you for the positive feedback we received on our previous newsletters – it has been very encouraging. Thanks to everyone who has provided contributions, and to Alexandra for pulling them all together again.

Section Online Get Together

The next Section get together via Zoom will be **19:30 BST Thursday 16th October 2025**, we look forward to seeing you again, so remember to add it to your diary. Join the Section mailing list to get the Zoom link which will be issued nearer the time.

https://britastro.org/section_information/

[join-the-education-outreach-mailing-list](#)

A Guide to Delivering Effective Education and Outreach Activities

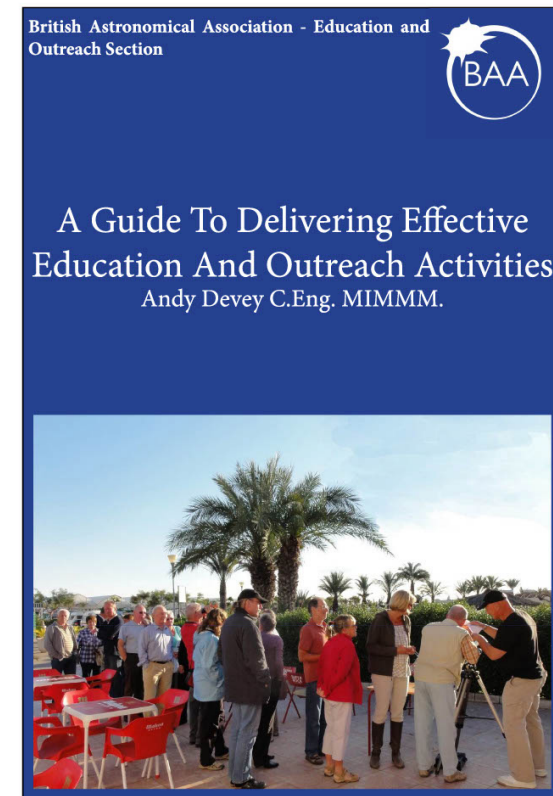
One of the aims of the Education and Outreach Section is to encourage the sharing of the experiences of members. Andy Devey has taken the time to put together a thorough and thought-provoking document, drawing on what he has learned from his many years of experience of astronomy education and outreach, and of life more generally.

https://britastro.org/section_news_item/a-guide-to-delivering-effective-education-and-outreach-activities-by-andy-devey

It is a guide that can be used in different ways – from reading through, to dipping in when looking for something in particular. Whichever way you use it, I'm sure that you will, like I did, find new perspectives and new ideas, hints and tips, that you can use to shape any activities that you do.

Andy is still eager to learn and develop, always looking for more effective ways of doing things, and he intends this guide to be a living document, which can be regularly added to and updated. So, if you have feedback or suggestions for additions then please feel free to contact him by email via the section at: eando@britastro.org

If you enjoyed it, or found something particularly insightful or useful, then why not encourage Andy and us by letting Alexandra Hart have a note for sharing in a future E&O Section Newsletter (eando@britastro.org). The more we can share, learn from, and encourage each other the better! Thanks Andy for leading the way.



Vacancies

Kielder Observatory is Recruiting – Deadline 16th August 2025

Kielder Observatory in Northumberland is expanding its team, adding another Astronomer and Science Communicator. Their advert includes:

“Who are we looking for?”

To sum it up in a phrase **a passionate presenter**. We welcome applications from everyone with an interest in and knowledge of astronomy. Passion for astronomy and engaging the public is at the core of what we look for in our team. Formal qualifications are not essential, it's more important to demonstrate the ability to communicate your enthusiasm for, and knowledge of, the universe to a wide range of audiences. We have a diverse team and are interested in different

lived experiences...”

Full details are available here:

<https://kielder.space/careers/>

Note the deadline is Midnight 16th August 2025.

The Royal Observatory Greenwich is recruiting a Planetarium Astronomer!

They are looking for someone passionate about digital technology and science visualisation, with excellent knowledge of astrophysics/astronomy and space science, and how to communicate it with the public. Could this be you or someone you know?

Deadline: 23:59, Tue, 26th Aug 2025

Location: Greenwich

Apply here: <https://app.vacancy-filler.co.uk/salescrm/Careers/CareersPage.aspx?e=LMo8nnTwYNZH-F9yY3QU2s5tWNr1IHCP3wTzO98Kd9dfdMe-jPUzZSsjMctnB2DEKBWHGwxC4VAXA&i-frame=True&iiframe=false>

Funding Opportunity

A reminder that the deadline for the RAS Education and Outreach Small Grants Scheme is **20 August 2025**. We understand that some extra money has been allocated to the scheme this year, so it's well worth applying if you have a project needing support <https://ras.ac.uk/awards-and-grands/outreach/education-outreach-small-grants-scheme>

International Astronomical Union (IAU)

The IAU was founded in 1919. Its mission is to promote and safeguard the science of astronomy in all its aspects, including research, communication, education and development, through international cooperation. To help achieve its mission it has an Office of Astronomy for Education and an Office for Astronomy Outreach (OAO). I had the pleasure of meeting Kelly Blumenthal, the Director of the Office for Astronomy Outreach, firstly at the European Astronomy Society meeting in Cork, and then for a full-day collaborative session with UK-based outreach practitioners in Cardiff the following week.

It is always great to spend time with like-minded individuals, sharing the joys and challenges of what we do. It is lovely to be encouraged and supported too, and Kelly did this, emailing me to say “*It was so great to meet you. Learning about the work you've done with Comet Chasers .. is very inspiring. If you think the OAO might be able to help promote your projects please don't hesitate to reach out. We'd be honoured to support you in any way we can.*”

ASTROEDU

"We're excited to present a 2025 summer collection of activities for all tastes! From using Arduino to simulate exoplanet transits—perfect for older students fond of technology—to exploring lightning on other planets, and wrapping up with a tactile Jupiter experience designed for younger children." Please visit us to find all three of the best summer with astronomy and science activities.

Back to Basics Event

Cardiff - 7th June 2025

I'm pleased to report that the latest Back to Basics event, kindly hosted by Cardiff University Physics and Astronomy Department and run in partnership with Cardiff Astronomical Society and the Society for Popular Astronomy, was very successful. In total we had just under 60 people attend. That proved to be a really good number as it meant the refreshment/stand area wasn't too crowded and there were lots of opportunities for quality interactions during the breaks, including individual advice on equipment options (and at least 3 people left having bought a telescope!).

fill in this form: https://docs.google.com/forms/d/e/1FAIpQLSenxQIMDVQ5IVjd23OM9I1EwaGXbfbkIVSkI_OJECrV8IEs9FQ/viewform

Please be aware that AstroEDU also has Collections of activities dedicated to specific topics that you can find here: <https://astroedu.iau.org/en/collections/>

<https://astro4edu.org/>
<https://iauoutreach.org/>
<https://astroedu.iau.org/en/>



A lot of fun was had with the Rotato experiment simulating the light curves of different objects and phenomena in space, including exoplanet transits.

The feedback was very positive, with all scores either Extremely Satisfied or Satisfied.

[illegible]

used recorded 'live' video to provide a very realistic experience of what it is like to sketch in real time. A few of the participants showed real talent – including a youngster who proudly showed me her sketches of both the Moon and Comet 67P (the Rosetta Mission Comet).

■ Extremely Satisfied
 ■ Satisfied
 ■ Neutral
 ■ Unsatisfied
 ■ Extremely unsatisfied

FACILITIES AND VENUE	14	6
QUALITY OF SPEAKERS	17	6
WAS THERE THE RIGHT MIX OF LECTURES AND ACTIVITIES?	14	10
HAS THE EVENT INCREASED YOUR INTEREST IN ASTRONOMY IN GENERAL?	14	8
DID THE EVENT MEET YOUR EXPECTATIONS?	16	8

Different people had different highlights, which suggests a good mix, and I'm grateful to all the speakers for the quality and variety of their presentations.

Many people said they would be looking at ways of continuing their interest by joining a society, starting

observing, attending more events, and researching online. The comments section was very encouraging too, suggesting all the hard work by so many people was worthwhile. Thank you to everyone, a great team effort! ☐

Volunteering - Reflections on My First B2B Event in Cardiff



Alexandra Hart

Before this event, I had never attended a B2B (Back to Basics), never helped with the organisation of a meeting of this kind, and had never even been to Cardiff. So, it was all quite new and exciting for me.

We arrived the day before the event and enjoyed a lovely evening strolling along Cardiff's picturesque waterfront, taking in the city's iconic architecture and atmosphere. The weather that evening was glorious, which made the next day's grey, rainy skies a bit of a disappointment, especially for an event that had hoped to include solar observing. However, every cloud has a silver lining: one young attendee joined us only because his cricket match had been cancelled due to the rain, so perhaps not such a loss after all!

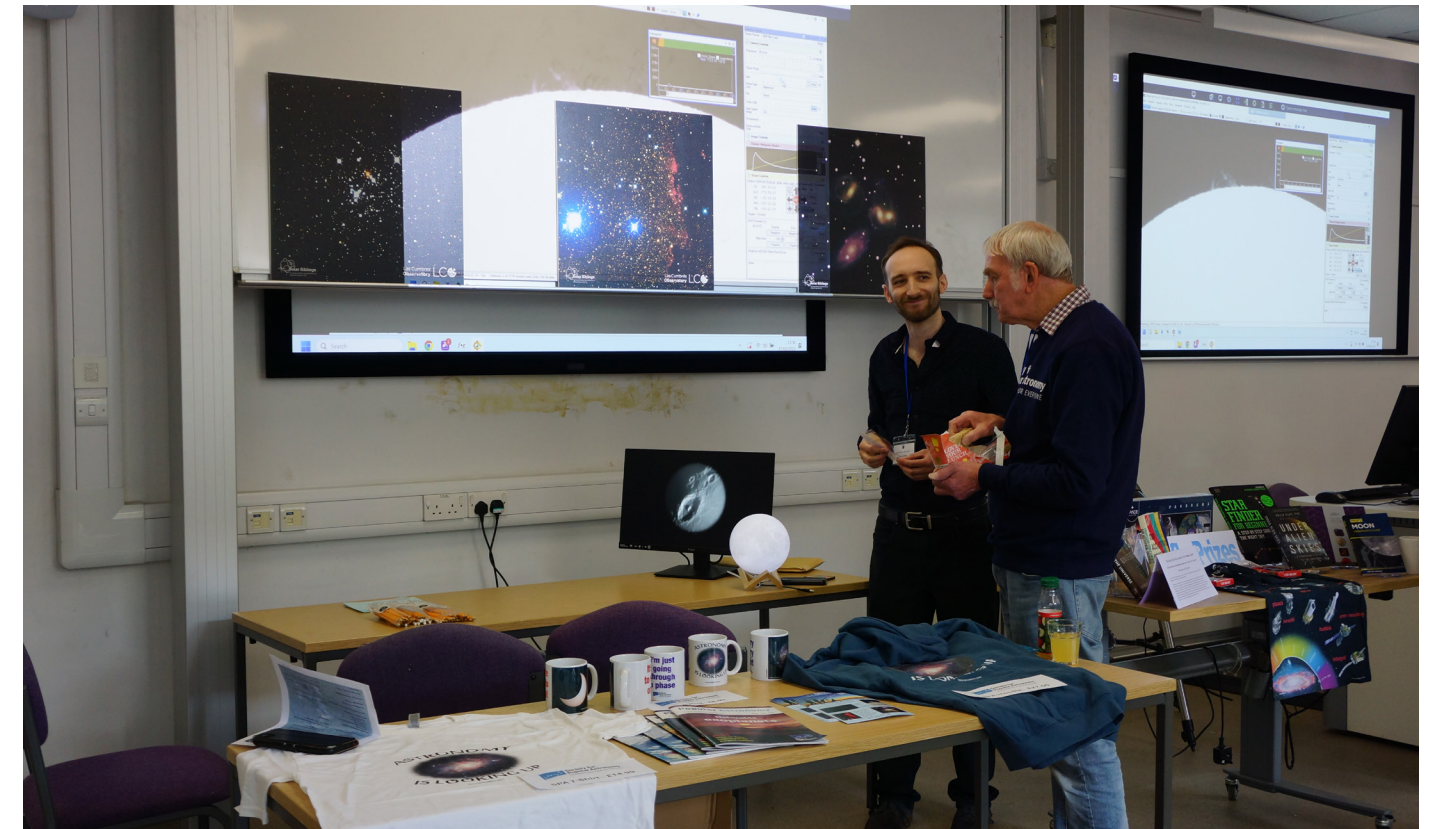
My role on the day was front desk "meet and greet." Initially, I found it a little daunting, I felt a strong sense of responsibility to ensure that everyone knew where

to go, how to find the toilets and refreshments (very important!), and of course, the location of the lecture theatre. This was made a little more complicated due to last-minute venue changes caused by unforeseen building works. The lecture theatre was now located in a different building, accessible via a level change and a bridge. Thankfully, the team from Cardiff Astronomical Society were exceptional, with clear signage and helpful volunteers guiding everyone along the way.

To my surprise, I thoroughly enjoyed the front desk role. It gave me the opportunity to speak with every attendee, many of whom returned during the breaks to continue our conversations or ask further questions—some astronomical, others purely practical. Being the first point of contact seemed to encourage people to return for assistance, which was both rewarding and encouraging.

The day featured a superb programme of lectures, including a welcome by Prof Paul Roche, Professor of Astronomy Education Cardiff University; "An Introduction to the Night Sky" by Robin Scagell, Vice President Society for Popular Astronomy; "The Solar System and How to Observe It" by Philip Jennings, BAA, Journal Editor; "Observing The Moon" by Dr Tony Cook, Aberystwyth University and Director BAA Lunar Section; "Choosing a Telescope or Binoculars" by Grant Bowskill, BAA Education and Outreach

Section, CEO First Light Optics; and a refreshment hall filled with engaging activities. Philip Jennings led a popular lunar sketching session, during which some participants, if they observed carefully enough, were lucky to catch something unusual passing across the Moon (did anyone spot the UFO?). One young girl produced an exceptional sketch, even managing to capture barely-visible ray details emanating from a crater. She is clearly a budding astronomer/observer in the making!



Helen hosted a "Comet Chasers" stand, where visitors could interact with rotating models (Rotato) and calculate orbital periodicity, colour, and shape of celestial bodies.

Marie-Louise, representing the BAA, was her usual warm and welcoming self, chatting with visitors and offering information about the BAA. We also welcomed stands from the Society for Popular



Astronomy and the Cardiff Astronomical Society.

The largest and most eye-catching display came from First Light Optics (FLO), led by CEO Grant Bowskill. Their stand featured a wide selection of telescopes and equipment to explore, including the impressive new MLastrO SHG700—a real treat for solar enthusiasts. Although the weather ruled out direct solar observation, a brilliant contingency plan

was in place. Thanks to FLO and Gary Palmer, we had a live video feed from FLO's solar telescope in Spain. Three giant screens streamed breathtaking images of the Sun throughout the day, including a dramatic prominence on the southwest limb and AR14105 in full view. It truly felt as though the Sun had joined us in Cardiff despite the rain!

An extended lunch break gave everyone time to explore the stands and connect with fellow



attendees. The afternoon continued with another set of fascinating talks including a lecture everyone was talking about "Surviving Armageddon" by Phill Wallace, Chairman, Cardiff Astronomical Society; "Introduction to Astronomical Photography" by Gary Palmer, BAA Equipment and Techniques Section

Work Experience Pilot Project

Helen Usher

In the last newsletter I mentioned that we would be running a Work Experience pilot project in July. The event ran from 14th -18th July. It was hard work, but very rewarding, working with a lovely group of eight A-level students. I'll do a more detailed article for the next newsletter when we've had chance to gather proper feedback from the students and teachers. But

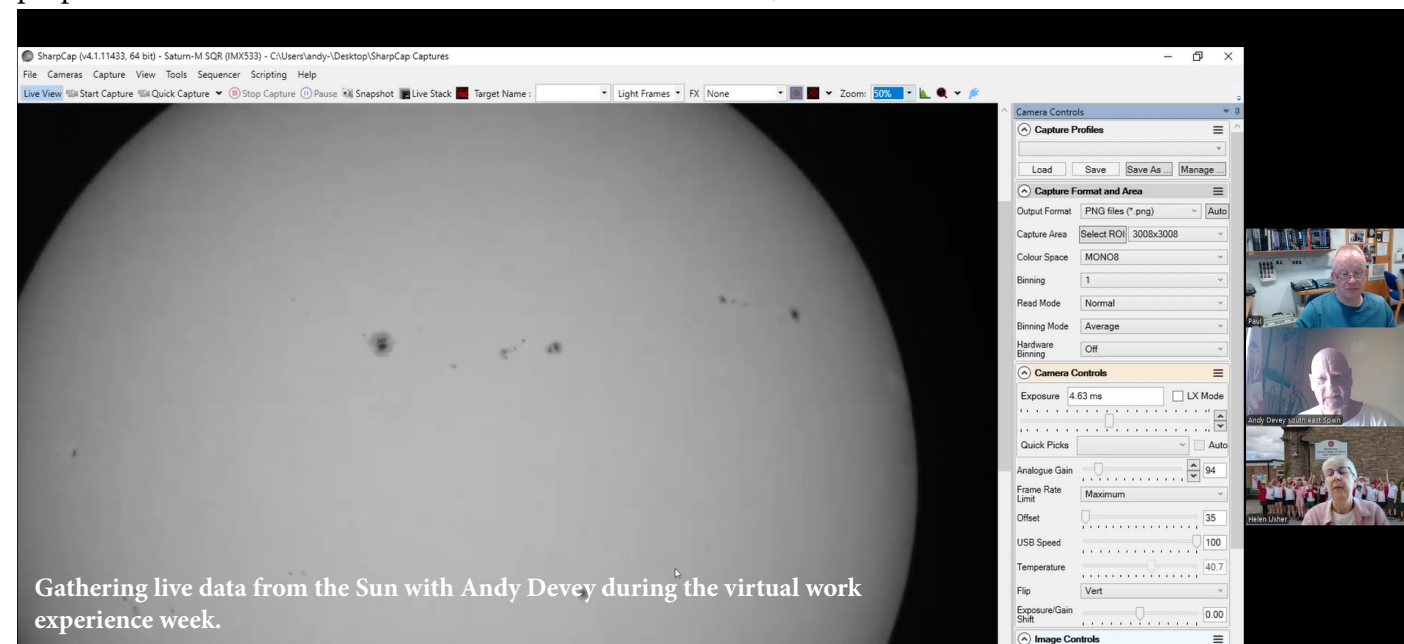
Director; "Try this at home" by Prof Andy Newsam, Schools Observatory, Liverpool John Moores University followed by a closing talk by Helen Usher, Open University, Cardiff University, BAA Education and Outreach Section Director who urged us to "Be Part of Something Bigger"; the day concluded with an eagerly anticipated raffle. The top prizes, a piece of the Moon and a piece of Mars, were met with great excitement by the lucky winners.

All in all, it was a fantastic and memorable day. I learned a great deal about event organisation and the importance of hospitality and attention to detail in making attendees feel welcome and supported. I'm already looking forward to the next event in November.

If you feel you would like to volunteer for any event or the Back to Basics meeting Pontefract on the 8th November 2025 please get in contact with us at EandO@britastro.org as we would be delighted to hear from you.

A heartfelt thank you to Helen for organising such an outstanding day, and for all the wonderful help given by the Team E&O volunteers on that day! □

we're happy with the informal feedback we've received so far, including this from the teacher: *"I just wanted to say Thank You to you and all the others who have contributed to this week's work experience. It has been fantastic to see the students taking measurements, processing data, doing research and presenting it. I would very much like our school to take part again in the future."* □



Gathering live data from the Sun with Andy Devey during the virtual work experience week.

Volunteering - A live telescope feed from Spain via Zoom

Virtual Work Experience – 14th July 2025

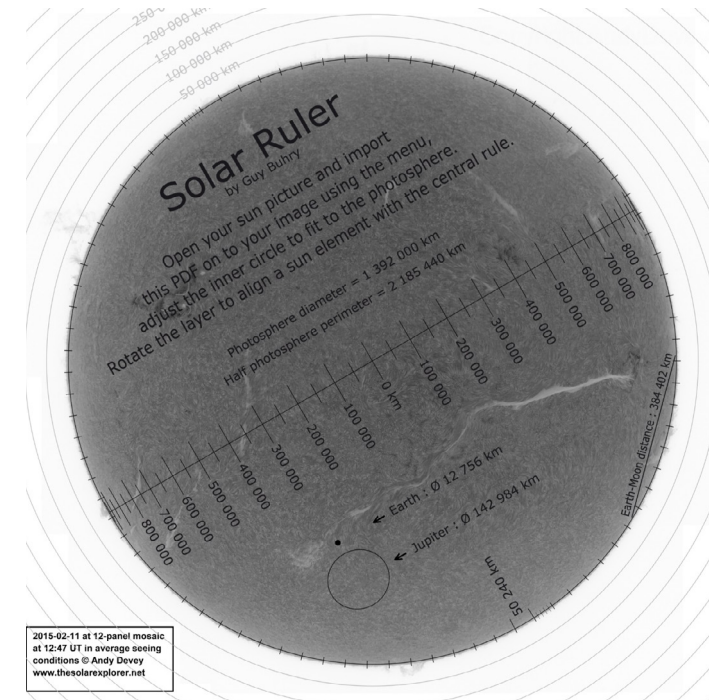
Andy Devey

I had the privilege to help Helen Usher, Prof. Paul Roche and students attending the first pilot Virtual Work Experience week from Cardiff by providing a live video feed from my home observatory near Bedar in the Almeria Province of south east Spain.

The session was planned to start at 1 pm my local time and 12 noon in Cardiff. On the day there were cloudy conditions that were predicted to clear at the time of the imaging session. I opened my observatory (a roll off wood and steel shed) two hours before time and ran a 50 m ethernet cable from our fibre optic router directly into my laptop in my observatory. To assist with ease of use, I removed my micro-observatory from my imaging table.

I initially had my ASI290 mono camera fitted into my double stacked SM90 hydrogen alpha telescope fitted with a 0.5x reducer. At 400 mm focal length this delivers a full disc image at 17 frames per second. I had my Saturn M mono camera with a UV/IR cut filter screwed into its nose piece. This fitted into the Lunt Herschel wedge on my Takahashi TOA 130 refractor. These two telescopes together with a Coronado SM90 CaK telescope are set on my pier mounted EQ8 mount.

Some initial cloud cover permitted me to demonstrate my location, turn the laptop to demonstrate my set up and show how features on the Sun can be scaled.



My 12-panel full disc with the solar ruler pdf included. This shows the dimension of the Earth, Jupiter and the Earth-Moon distance relative to the Sun's disc. I pointed out the filament that was over one million kilometres long (the distance from the Earth to the Moon, back to Earth and half way back to the Moon again)!

I also stated that you can fit over a million Earths inside the Sun and within the largest star thus far found you can fit seven billion Suns!

I demonstrated some of my animations of the May 2024 solar events that triggered the G5 solar storm that caused the auroras.

M6 flare from 8 May 2024 <https://app.astrobin.com/u/AndyDevey?i=klgq1#fullscreen>

X2.2 flare from 9 May 2024 <https://app.astrobin.com/u/AndyDevey?i=ne3iab#fullscreen>

X3.9 flare from 10 May 2024 <https://app.astrobin.com/u/AndyDevey?i=rh6ur3#fullscreen>

M8.9 flare from 11 May 2024 <https://app.astrobin.com/u/AndyDevey?i=kd0er1#fullscreen>

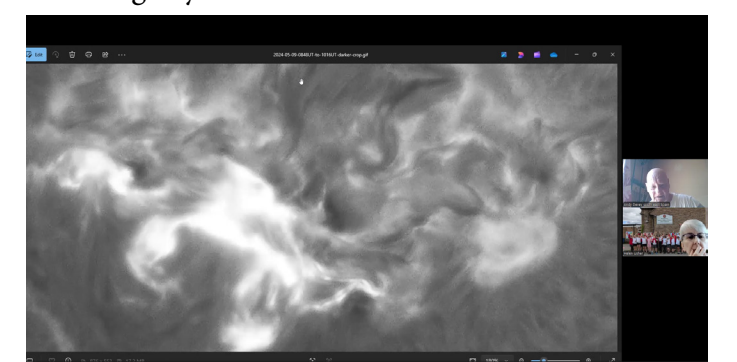
M8.9 flare from 11 May 2024 <https://app.astrobin.com/u/AndyDevey?i=kd0er1#fullscreen>

Live feeds were delivered with short intervals between while I checked the focus. At full video zoom I was able to deliver a tour across the solar surface in both white light and hydrogen alpha.

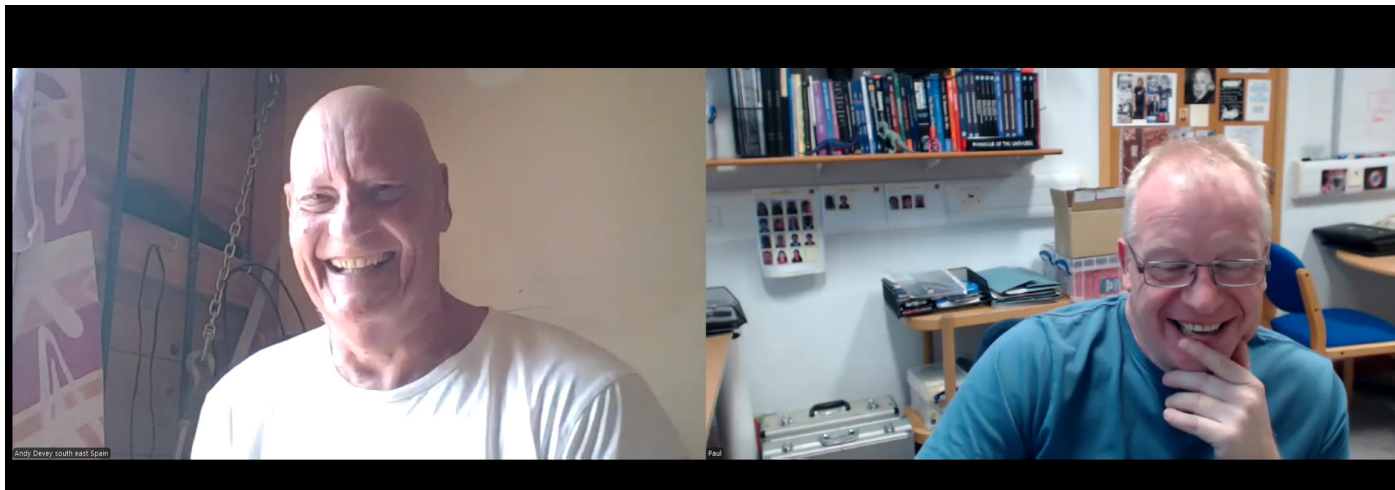
A few jokes were shared and the one piece of advice I gave the students was:

"Find the fun in any new venture and if anyone is discouraging or tries to say you cannot do it then go to the ends of the Earth to prove them wrong." One thing through post event analysis was that we were unable to see the students which makes it difficult to make a connection and gauge how the event is being received.

This was fixed by school technicians ready for the following day events.



10 May 2024 animation of the X2 class solar flare screen grab.



Andy and Paul having fun during the discussion.

After the event I switched to 1600 mm focal length in hydrogen alpha and grabbed 24 video sets to a full disc mosaic, a sequence on a small limb flare and full disc in white light. I put the video files through Autostakkert 3 and the Registax 6. The still images

were transferred via We Transfer for the students to keep, and the following day I spent four hours in Photoshop assembling the full disc image which was also sent over to them. A link to the final image can be found here: https://spaceweathergallery2.com/indiv_upload.php?upload_id=224336

□

Questions

We had a question from Marie-Louise Archer: I wonder if someone could write an article about how an 8 year old, independent of their school, could get involved or increase their interest in astronomy?

Getting Children Involved in Astronomy

Nic Spencer

To inspire the interest and engagement of children in astronomy, adults might like to try to match space themed activities to the child's current interests, level of imagination and learning style. Encourage questions and discussions to foster a sense of awe and wonder by talking about what they see and encouraging their curiosity. Here are a few suggestions but there are many more to be found by accessing the useful resources at the end.

- ▶ Build a spaceship from Lego.
- ▶ Try to look at the moon every day for a month and draw its shape with a pencil and paper or create digital images on an iPad. Notice the time you look and its position in the sky. Does it change or stay the same?
- ▶ Use glow in the dark paint to show real, or imagined, constellations. You could make up myths about their origin.
- ▶ Dribble a planet (football) in an 'orbit' around a central object which represents the Sun. An orbit nearer the Sun which represents Mercury will happen much faster than a larger orbit, representing

Mars, which is much further away from the Sun.

- ▶ Find the time of Nautical twilight online and be amazed as the stars appear as if by magic! Who will be the first to spot them?
- ▶ 'Fact or Fiction' Are you a Dr Who fan? Which is your favourite alien? Create your own alien and write an exciting story about it.
- ▶ Have fun writing a space themed poem.
- ▶ Watch a meteor shower with your family/friends. Who can see the first/most?
- ▶ Draw, colour or paint a space themed picture for your bedroom wall.
- ▶ Look up at the night sky and find constellations and planets with your family/friends and 'say what you see!' you don't have to label everything accurately...yet!
- ▶ If you enjoy looking up at the stars and planets, in time you might like to use an app like Sky Guide to be able to identify them. You could keep a list of the objects you see as a diary.
- ▶ You could use an app which tells you when the International Space Station is flying over your house so that you can watch out for it. Why not wave to the astronauts on board!
- ▶ Next time you're watching the night sky for Father Christmas on Christmas Eve, have a look at the moon, stars and planets that he will see on his journey.
- ▶ Have a space themed TV/movie night and snack

on biscuits which you have baked with an adult and then decorated like the planets, moon and stars.

- ▶ Ask if it would be alright to have space themed posters, toys or pyjamas for a birthday present. With permission you could decorate your bedroom with glow in the dark stickers or make constellations with fairy lights.
- ▶ You could find out the history of space exploration, current space missions and astronauts in the International Space Station. You could make a presentation to share with your family and friends.
- ▶ You could ask your parent or carer to take you to a planetarium or dark sky location with minimal light pollution so you can see the stars more easily. They could contact your local astronomy club to find out more about star parties.

The sky is the limit... or is it!

Useful resources for children

BBC Bitesize Space KS2 self-directed learning for children <https://www.bbc.co.uk/bitesize/articles/zg-pvdbn>

[pvdnb](https://www.bbc.co.uk/bitesize/articles/zg-pvdbn)

ESA - Space for Kids - learn ESA <https://www.esa.int/kids/en/learn>

Do | NASA Space Place – NASA Science for Kids <https://spaceplace.nasa.gov/menu/do/>

Useful resources for adults

Stargazing with kids: how to inspire young astronomers <https://www.skyatnightmagazine.com/advice/skills/stargazing-for-kids>

11 space and astronomy activities for kids | BBC Sky at Night Magazine <https://www.skyatnightmagazine.com/advice/science-projects-kids-children>

How to get kids' heads in the stars | Astronomy.com <https://www.astronomy.com/astronomy-for-beginners/how-to-get-kids-heads-in-the-stars/>

12 simple ways to get your children excited about astronomy <https://www.astroshop.eu/magazine/practical-tips/observation/12-simple-ways-to-get-your-children-excited-about-astronomy/i.1525>

□

E&O News

Students Aid James Webb Space Telescope Observations of an Interstellar Comet Helen Usher

On 1st July 2025 the third interstellar object was discovered – Comet 3I/ATLAS (C/2025N1). This has caused much excitement as it provides a sample of extrasolar planetesimal material. It will be interesting to compare its composition, activity and colour with both interstellar and solar system small bodies. Its passage through our solar system is predicted to be observable until mid 2026. This is an exciting target for our schools' Comet Chasers project, and we're planning to observe it for as long as its visible. Over the last few weeks students (including those on the BAA Work Experience project) have been making observations with the 2m Faulkes Telescopes located in Hawaii and Australia. The observation parameters were set by research scientists in the LCO Outbursting Objects Key (LOOK) Project <https://neoexchange.lco.global/lookproject/> to provide data for refining the body's orbital parameters. The LOOK scientists had time allocated on JWST, but the observations would only be scheduled if the uncertainties in the comet's orbits were within tolerance (to ensure the comet was in the field of view!). Our students loved the idea that they could help with JWST observations! And so they did, with their observations helping to refine

the orbit sufficiently that the observations have been scheduled. So we're excitedly looking forward to seeing the images in time.

Dennis Bodewits (Auburn University) who is working on the JWST observations said: *"Big thanks for your work!! This is not a glamorous part but it is essential for the big space telescopes."*

And the success has continued. The students' observations have also been used in a paper led by Dr Toni Santana-Ros from the University of Barcelona looking at the comet's evolution over the first few weeks since discovery, including its spin, colour and activity levels. This has been submitted to A&A Letters, and uploaded to Arxiv <https://arxiv.org/abs/2508.00808> The Comet Chasers project and the individual schools (The Coopers Company & Coborn School, Upminster, UK; Ysgol Gyfun Gymraeg Bro Edern, Cardiff, UK; St Marys Catholic Primary School, Bridgend, UK; Institut d'Alcarràs, Catalonia, Spain; Louis Cruis Astronomy Club, Brazil; and Jelkovec High School, Zagreb, Croatia) have been credited in the paper. As part of the Work Experience project we introduced the students to scientific writing and the research publication process, and talked about peer-review in particular. It is an unexpected bonus that we can let them experience that process in real time with a paper to which they have contributed! We'll

be sharing the reviewers' comments, and then the research team's response and amendments with the students through the publication process.

Hopefully this is the first of a number of publications using the excellent data that Comet Chaser students can gather through the Faulkes Telescope Project/Schools Observatory and Global Sky Partners access to the LCO network. If you have a school, or a group (eg a local society Young Astronomers' club) who would like to get involved in this project then just get in touch. There's no cost, and no minimum commitment. We operate through a simple discussion (yahoo/io) group which provides guidance and support from professional and amateur astronomers.

West Yorkshire Astronomy Society (WYAS) and BAA Link Up for Young Astronomers Session

We had a lovely evening linking with the WYAS outreach team and their Young Astronomers. The Young Astronomers had asked that the topic for their June meeting be Asteroids, to link with Asteroid Day. So their leaders approached me to see if we could help, as they'd seen our Comet Chasers project. Richard Miles (Asteroid Section) and I volunteered to help, both during the evening (joining online) and by providing some hands-on activities to supplement those the WYAS team already had planned.

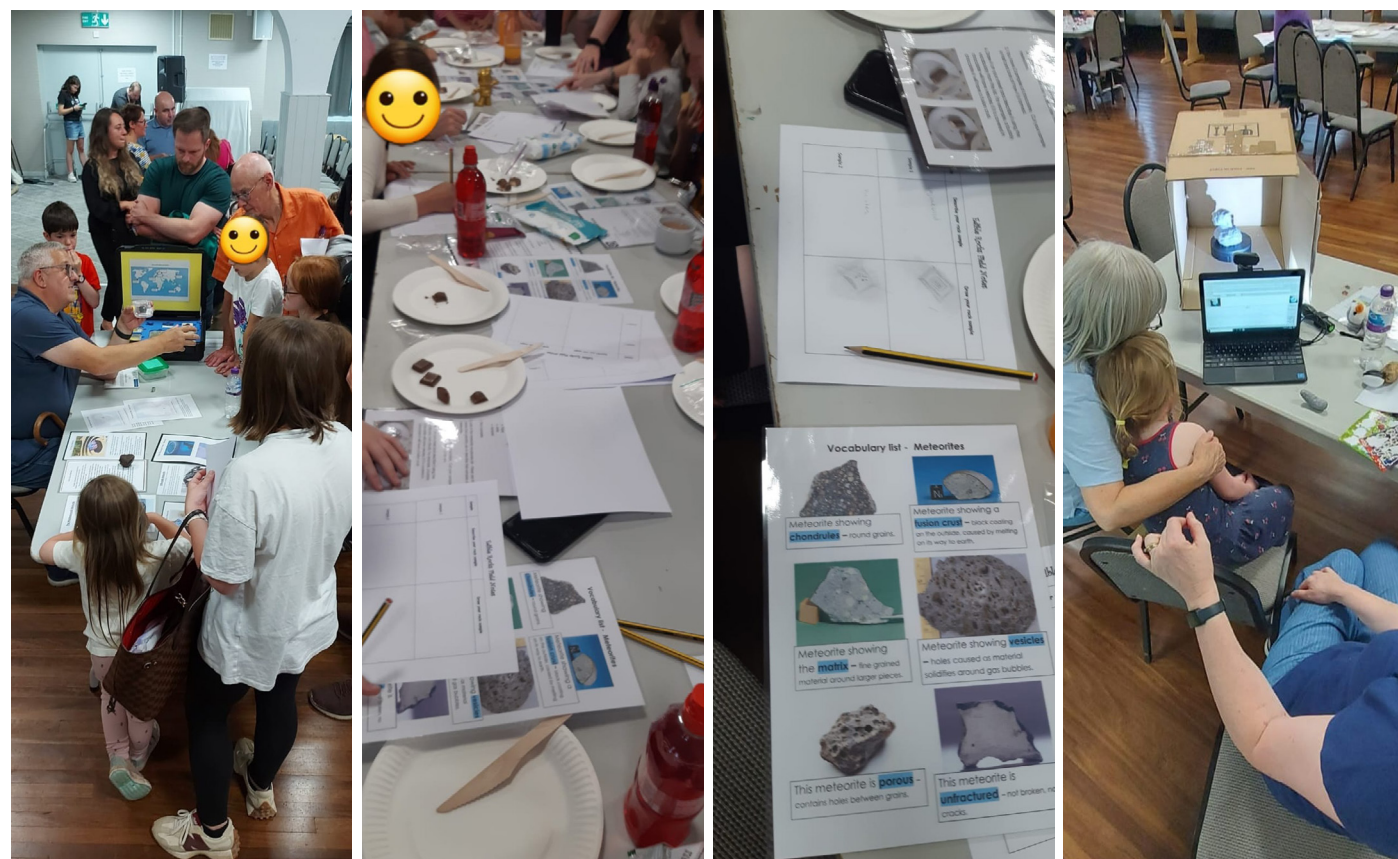
I sent along a few Rotato kits (<https://www.cometchasers.org/home/rotato>), and arranged for a

Down 2 Earth meteorite loan box to be sent from the National Museum of Wales. WYAS also had some super investigations lined up eg slicing up chocolate bars with different compositions (e.g. milky way bars, toffee crisps) and getting the children to draw them and describe them using the language used for describing meteorite composition. They could then compare with the real meteorites too. The event was really well attended - around 50 youngsters and their accompanying adults. It was great to see the pictures of them all experimenting, having fun with them, and getting excited.

Richard and I also really enjoyed answering the questions posed by the children, which ranged from ones about asteroid composition to careers! We were keen to stress that you could be involved in astronomy, and astronomy research, without having astronomy as a full-time job. One lad said he was very pleased about this as he really wanted to be a zoo keeper, but would like to be an astronomer too!

The feedback from the evening was lovely to read, with everyone really enjoying it, learning a lot, and being inspired. A great team effort. (If you'd like to borrow some Rotato kits for an event please get in touch EandO@britastro.org).

We're looking forward to continuing to work with WYAS, as they are hosting our next Back to Basics event in **Pontefract on 8th November 2025**. We'll be doing lots of fun hands-on activities then too! <https://britastro.org/events/future-events>



Seestar and Students

Through support from First Light Optics and an STFC-funded project called Deep Space 2 Deep Impact we've been able to give students access to some ZWO Seestar Smart telescopes. They are proving very popular indeed. Students are well-used to handling technology, so soon find their way around the Seestar's app to effectively control the telescope and make observations. With minimal intervention from teachers (ensuring safe set up and levelling), even primary school students can take ownership of their observing sessions. The ability to safely make observations of the sun during normal school hours, and in even short breaks in clouds is really useful. The Seestar can also be used alongside other forms of viewing - e.g. here the students from St Mary's Catholic Primary School in Bridgend are observing the Sun using both the Seestar and a refractor equipped with a 'sun funnel'. (If you haven't heard of a 'sun funnel' then I suggest you take a look as it's a great way of group viewing sunspots and particularly partial solar eclipses https://eclipse.aas.org/sites/eclipse.aas.org/files/Build_a_Sun_Funnel_v3.6.pdf)



Year 6 students at St Mary's Catholic Primary School Bridgend enjoying their solar observing.

Our next task is to develop some science activities based on the resulting observations. For younger students this will include monitoring sunspots across

the disk, looking for changes, and possibly putting together simple animations. For older students we'll be looking to analyse sunspot movement to calculate differential rotation, as well as categorising and counting sunspots. □



Image taken by the children on 2.5.2025 at 12:31 (BST) with a Seestar 50 and the supplied filter.



Image taken by a participant in the BAA Work Experience pilot in Cardiff on 14.7.2025 at 16:42 (BST) with a Seestar 50 and a Baader filter.

My Mobile Planetarium

Dave Eagle

I've been fortunate to be involved with mobile planetariums for quite a few years. After we downsized seven years ago and I left my job to semi-retire, I was offered the opportunity to buy my own planetarium a few months later—so of course, I jumped at the chance. This 5-meter inflatable dome, and everything else easily fits in a car. I have taken it out to set it up in schools, village halls, and community centres. I have been to many schools, scout groups, public events and even given planetarium birthday parties. A fan inflates the dome, and inside an image is projected to give a realistic night sky. This

means I can show everyone what it should look like under a dark and clear starry night, indoors and during the day. Of course, unlike star-gazing events, I do not have to consider the problem of having to have clear, dark skies for the event to go ahead, or cancelled at the last minute due to weather.



How It Works

The planetarium takes about an hour to set up and I use a high-definition projector and spherical mirror to project the image inside the full width of the dome to create the night sky display, or give the feeling of being out in space. Modern digital systems have made the technology quite sophisticated, so the visual experience is much more dynamic than in older planetariums with static star projectors. When the lights dim and the stars and Milky Way appear, it's very impressive, creating a 360-degree view surrounding the audience, giving a fully immersive experience. I love hearing the Ooohs! and Ahhhs! that accompany the start of the show as the Sun sets, the sky darkens, and the stars and Milky Way are revealed.

I can show different periods. What did the sky look like 1,000 years ago? I can take the audience to other locations on Earth's surface, even in outer space, or show specific astronomical events or concepts. I can run animated eclipses, demonstrate how the planets orbit, or even simulate a fly-by of Mars, Saturn or the very edges of the universe. I love the challenge of creating and incorporating special effects into my shows to give deep impressions to help capture the



audience's imagination. I am particularly pleased with the friendly alien I created for use in shows for younger children. He appears on the dome in his flying saucer, speaking to them throughout the show, which the children adore.

The Experience

My dome can accommodate about 30 children who sit on the floor. I tailor my shows to the audience, encouraging questions and answers and discussing things people are curious about. Common questions include how astronauts live in space, what black holes are like, and details about specific planets or space missions. I'm always surprised at how much some young pupils know, often telling me much more information than I've already given them.

I also offer extra activities alongside the planetarium show, such as rocket building workshops, either using soda-pop bottles or paper stomp rockets, space mission demonstrations, or hands-on physics experiments. I usually tie these into the planetarium presentation to extend the learning experience and match it to the lessons in their classes and the national curriculum.

Despite Covid-19 restricting things for a couple of years, I have probably seen a few thousand people, mostly children, in my planetarium over the time I've had it.

It is hard work setting up and taking everything down, plus the early morning alarms needed to make sure I get to school on time. Despite this, I love this job, especially when I receive an e-mail like the one below from the teacher after my latest visit.

"I just wanted to send a quick thank you for today."

Sungazing on The Green - Part 2

Nic Spencer

I was in two minds whether to submit the sequel to my first outreach experience to the E&O Team newsletter. Then I realised that I'm probably in the fairly unique position of not having done much outreach before and my story might encourage other people to take the plunge too.

I was contacted by a number of villagers who had been disappointed that they missed the first event, so I decided to host another. Confident after the previous, quiet, meticulously planned Sunday, I opted for a Saturday morning, 10:30 – 12 noon, on 3rd May, as the village shop would be open and there would be a lot more people about. Four days before, the weather forecast was clear, but on the day, the clouds arrived! Because of that, I decided to print off a SOHO image

The kids all loved the show - the wows and ohhhs I could hear from outside the dome were tremendous!

We had children start the day not liking science and leaving loving it!"

If you'd like to make contact with a planetarium near you, there are lots of us scattered around the country, many of whom are members of The Association of Planetaria. □

<https://www.planetaria.org.uk/page-18079>



Launching a rocket!

of the Sun in white light and one in hydrogen alpha beforehand, so that I could at least show people what they were missing! When the clouds cleared, the SOHO images unexpectedly became a useful 'map' so that people could get a sense of the position of filaments, for example, which are quite tricky to see with a Coronado PST, and then have fun hunting for them through the eyepiece. I will always do that in future. I just taped them to the tabletop which had my binocular projector on. The beautiful huge sunspot in Active Region 14079 was a gift for people to see, both through the binocular projector and through eclipse glasses. There were plenty of 'oohs and ahhs!' The scale of the spot was mind-blowing at about five earths wide. There were about 25 people who popped down to have a look. I learned not to fear clouds

because it actually gives opportunity to get stuck in with interesting conversation and descriptions. I was bothered that people would feel frustrated if they couldn't see anything. In fact they were more disappointed for me having put the effort in to set the event up. By hosting this event, I've had an invitation to do solar outreach at two local primary schools and two branches of the Women's Institute.

One recently retired man attended and shared his confusion about the vast array of telescopes available these days, the different eyepieces and barlows and whether smart telescopes are as good as the adverts say. I invited him to my observatory (well it's a shed with a lid!) a couple of days later and we had an enjoyable hour looking at my kit. This led to talking about seeing conditions and the famous unique climate in the Vale of York to understand that a telescope can, at times, be too big! I'd suggested he download the app for the SeeStar onto his phone so that he could experience using it to take an image of the Sun and get a feel for how smart telescopes operate. I recommended an astronomy shop which I use and we worked out questions he'd ask them to fine tune his decision. Naturally I recommended that he join the BAA!

People have been asking me why I have chosen to do solar outreach on local village greens. That's because they are often in the centre of the village, there are a lot of passers-by to join in the fun and also because I am a woman on my own with my precious equipment. I feel safer with more people about. You do need permission from the Parish Council to host an event on a village green. Confident after two formal outreach sessions in my own village, I have been brave and have done my first 'on tour'! I'd sent a request to the Parish Council in Newton Upon Ouse seeking permission and, as luck would have it, they were having a 'Picnic on The Green' to mark VE Day, so they invited me along on Sunday 11th May 2-4.30pm. I set up beside a beautiful Millenium Sundial. There were about 80 people there, so I was kept busy. There

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.

While the BAA does not officially endorse individuals listed on the site, it provides a useful resource to begin your search. We encourage you to do your own due diligence when selecting a speaker.

was wall to wall sunshine and it was a wonderful afternoon. There were more children and teenagers present which was lovely. I didn't realise the extent of how easily children can see the features of the Sun and how much older people can struggle. That is except for people who have had cataract surgery who seem to see the features on the Sun easily. From this event, I got an invitation to another primary school and to a church group to hold more solar outreach sessions. So, the more you get out there, the more word spreads and the more opportunities arise.

After reading about the STEM Ambassador project in the first E&O newsletter, I found out more and have registered. I am just awaiting my DRB check and then I will contact these schools and go and visit. I think it will be fun for the children to enjoy looking at the Sun (safely) during lunch time without the need for intense learning. Equally it could be that a small group of higher attainers could be challenged with a learning project of their own. Maybe the Sun could be used as a stimulus for art work. The options are limitless. I'm just awaiting the last part to arrive in order to build a SUNSCAN (sunscan.net) which is a little portable spectroheliograph with a camera built in. It takes images that you can save on your smartphone. Having spoken to a couple of teenagers at this event and hearing what they know about the electromagnetic spectrum, I have now opened up my availability to high schools in the area on the STEM Ambassador program. I'm certain they will enjoy hooking up to a SUNSCAN and getting images of the Sun in different wavelengths from it.

Each time I host an outreach event, I fine tune my equipment and how I carry it and set it up and it becomes easier each time. I will make hay, well erm, do outreach while the Sun shines March until November, while the Sun is very active, and then put my feet up by the fire in winter and look forward to reading about everyone else's night time outreach sessions.

Go on... give it a go! ☐

If you're a speaker yourself and would like to be included, please consider adding your name to the list—let's work together to make this a fantastic resource for the community!

You can 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: <https://www.stem.org.uk/stem-ambassadors>

☐

Towpath Tales – May to July 2025

Alexandra Hart

Between May and July 2025, I had the pleasure of meeting many people, and their dogs, while walking the towpath near Bridge 5A (Venetian Mile) on the Middlewich Branch of the Shropshire Union Canal.

3rd May 2025

At last, the clouds cleared! I set up my new Sky-Watcher Heliostar 76Ha on a SolarQuest mount in under 10 minutes and was soon observing. The experience was amazing! The telescope fits nicely in the "mouse hole" on the narrowboat, and the quick setup time makes it ideal for both personal observing and outreach. The visual views were stunning, and with better resolution should prove far more useful than my very old PST on its broken mount.

I was quickly joined by two couples who stopped to enjoy the view. The first couple owned a lovely friendly dog; the second was a father with daughter named Lyra— after the constellation, not the book series! They asked many thoughtful questions about the photosphere, chromosphere, and eclipses, and went away delighted with a pair of eclipse glasses.

17th May 2025

The weather was beautiful, and I set up the Heliostar on the towpath in the afternoon. Unusually, a hire boat passed by and, as it did, a man seated beside the helmsman shouted, "Oh my goodness—a hydrogen-alpha telescope! I've always wanted to look through one!" Before they disappeared, I called out that he was welcome to come back and have a look.



About 20 minutes later, he returned, having left his family to work the lock and fill up with water. He was astonished by the view—it was clearly a "wow" moment for him. He asked many enthusiastic questions, and we had a great conversation about astronomy and the Sun. He mentioned recently buying a DWARF 3 smart telescope. Eventually, he headed off again, and we wished him well on his holiday to Chester and Ellesmere Port.

Later, an Australian couple passed by and were also captivated by the solar view. We wished them all the best with their new narrowboat The Toucan and their adventures travelling the UK's inland waterways this year.

15th June 2025

It was a windy day with fast-moving clouds, making for challenging seeing conditions. I met a young man on the towpath who thoroughly enjoyed observing through the Heliostar. We chatted at length about his son, who had been disappointed with the GoTo telescope he'd received for Christmas because it rarely managed to find anything. We had a detailed discussion comparing GoTo mounts and smart telescopes like the SeeStar, weighing up the pros and cons of both.

26th July 2025

In the warm light of late evening, I had a great conversation with a passing wildlife photographer. We initially began by comparing who had the bigger telescope lens! He then took a look through the Heliostar and, once he understood what he was seeing,

was fascinated by the view. The Sun displayed prominent dark filaments and two small prominences on the eastern limb. We ended up chatting about the local birdlife and what species could be spotted along this stretch of canal. ☐

Helios at Dyffryn Gardens

Helen Usher

In the first E&O newsletter we featured an article by Stuart Green about how he provided images of the Sun for Luke Jerram for his Helios artwork (if you haven't read it then it is well worth reading).

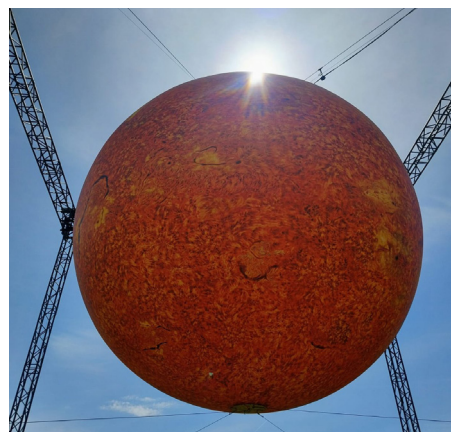
Helios came to Dyffryn Gardens, a National Trust site just outside Cardiff, and so we took some time out to visit it. This particular installation was outside, rather than the usual indoors. Given the weather was variable (well it is Wales) I understand that proved a bit challenging sometimes. But, on the afternoon we were there, it was warm and sunny.

Being outside did perhaps result in the artwork initially seeming smaller – we'd previously seen the Moon in Bristol cathedral and it seemed to fill the space – but up close it was very impressive! There was also an opportunity to view it from a distance and see the Earth at a comparable scale. And because it was outdoors there were many interesting viewing angles and options for quirky pictures. We weren't the only ones trying these, and we enjoyed chatting to the

other people viewing it too.

On a few evenings they opened late and lit it up as the sun set – I wished we'd been able to experience that too as the videos of it on Youtube are very impressive.

It was certainly a draw to get people to visit Dyffryn Gardens. We hadn't been there for many years, but really enjoyed the visit and will undoubtedly be going back again soon. The National Trust was also imaginative in the supporting exhibitions. There was background information on the Sun and Helios, and lots of more general astronomy information too. Children (and adults) were well catered for with sun-themed crafting options which seemed to be very popular. It was particularly lovely to see a small girl (around 6 or 7) sat on the grass underneath Helios doing a detailed coloured drawing of the Sun. I'm sure the Helios display and exhibition will have been a very memorable experience for many people, and hopefully will have sparked an interest in astronomy for some. We enjoyed it very much. □



Cardiff Astronomical Society: Celebrating 50 years Cymdeithas Seryddiaeth Caerdydd: Yn dathlu 50 mlynedd



17 July 2025 - 31 October 2025
Monday - Saturday 10am - 4pm
Free Entry

17 Gorffennaf 2025 - 31 Hydref 2025
Dydd Llun i ddydd Sadwrn: 10am - 4pm
Mynediad am ddim



Museum of Cardiff
The Old Library, The Hayes
Cardiff, CF10 1BH



Cardiff Astronomical Society: Celebrating 50 years

Cardiff Astronomical Society has been sharing the night sky with the public since 1975.

Through talks, stargazing, solar observing, and outreach across South Wales, including sessions at our observatory in Dyffryn Gardens, we've brought astronomy to communities for generations.

Celebrate our 50th anniversary at the Museum of Cardiff (Old Library, The Hayes) in a bilingual exhibition running through 31 October. Explore:

- A historic telescope and Calver mirror from the former Penylan Observatory
- Mesmerising astrophotography by CAS members
- A half-century of amateur astronomy and public engagement

Come and see how Cardiff's skies have stirred imagination for decades, and then let them spark yours.



Museum of Cardiff
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