

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



Issue 1

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Welcome from the Section Director

Helen Usher



Welcome to the Education and Outreach Section's first newsletter. I'd like to thank Alexandra for volunteering to take on the job of editor, and thanks to her, Stuart, Paul and Sri for providing our first articles. I've included a few things that I'm excited to be working on at the moment, and

also some links to resources (such as telescope time, funding opportunities, and support) that I hope will be helpful for you too.

We're looking forward to hearing about what you've been doing, sharing hints and tips, links to great resources, celebrating successes, and getting ideas for future developments. We would really love to feature details of the projects you're engaged in, so why not write something for the next newsletter?

Email either Helen Usher (Section Director) or Alexandra Hart (Assistant Director / Editor of the E&O newsletter): EandO@britastro.org with newsletter in the title.

Section Online Get Together

We're pleased to announce the first informal section get together via Zoom will take place at 7:30pm on Thursday 3rd April. We're then thinking perhaps quarterly would be a good idea, but we are open to your views for more or less frequency. We can share what we got up to for the partial eclipse the previous weekend – and whether we were fortunate with the weather!

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STEM Ambassador Scheme

I'd really like to encourage everyone to sign up for the STEM Ambassador Scheme. If you've never heard of it, it is a centrally run scheme, funded by the UK Government. Here's what their website <https://www.stem.org.uk/stem-ambassadors> says about the scheme.

What does a STEM Ambassador do? They change lives and have an amazing time doing it!

STEM skills are increasingly essential in today's fast-changing workplace and provide life satisfaction, enjoyment, and amazing career opportunities. We know it. You know it. But not everyone has access to that first initial spark of inspiration. Yet.

Our STEM Ambassador programme supports a network of thousands of amazing volunteers to bring real-life examples of STEM careers into schools, colleges, and universities across the UK. They help to break stereotypes and offer engaging activities to inspire the next generation into the infinite possibilities of STEM pathways.

Astronomy and Space are subjects that really can inspire and excite students, and are a great way to teach lots of curriculum-related skills and knowledge in a fun way. But the impact of the scheme is as much about showing the diversity of people who are engaged in STEM activities – as it is about you, who you are, why you love the subject, how you got into it etc. If you know me, you'll know that I am now doing STEM education after a first career in accountancy – a teacher last week said to me this shows the students that it is never too late to follow your passion!

What do you get from it, and why should you join? It is incredibly rewarding. But there are some practical benefits to doing outreach/education through the scheme too. If you work with children you need to be properly vetted, DBS checked. The STEM Ambassadors scheme will organise this for you free of charge. There are loads of training materials, and other resources available via the website, and there are training sessions too. You'll get added to

a mailing list where you get notifications of events, and also, perhaps most importantly, a list of requests from teachers who are looking for people to visit their schools for different purposes. For example, they might ask for someone to come and talk about Space for Space Week, or for their Astronomy topic, or run a rocket workshop. Less specifically it might be about talking about your career, or helping with mock interviews or mentoring. There really is a huge range of ways you can help. And the more diverse the backgrounds of STEM Ambassadors the better. If you do an event, then as long as it is voluntary, and you log it on the website beforehand, then you are covered by the scheme's insurance – always reassuring if you're working with children and equipment. So why not sign up?

I am currently in communication with the scheme administrators about adding an affiliation option of BAA, just so that we can celebrate what our members are doing. And on that note, if you are a STEM Ambassador it would be great to know what you enjoy most about it, and if and why you'd encourage other

people to get involved too. I'd like to use these quotes for an article I'm writing for the Journal.

Visits are always fun, and very much appreciated – and sometimes you even get thank you cards from the children!



Could you help us expand our offering for GCSE and A level students?

We've had a few requests recently, including at Astrofest, from students looking for project work, or work experience, relating to astronomy or astrophysics. We also have a reasonable number of new young members (signed up at New Scientist Live and Astrofest) for whom we probably don't offer much at the moment. So we are currently exploring the practicality of providing some activities for them. As an example, we're thinking about some online sessions with introductory talks, group work on archive data, then using the access we have to remote telescopes to allow students to gather their own data, process and analyse it, and write up a short report/paper (possibly for inclusion in a BAA publication). There would be support and mentoring available. We're thinking this would look great on a student's CV, as well as being interesting and fun, and linking them in with the BAA and Observing Section expertise (hopefully the start of a long term association!).

There is an opportunity also to apply to The Schools Observatory for more telescope time for the next semester (starting in August) if we can demonstrate

that the BAA can provide well-defined projects and the appropriate levels of support for students. The Comet Chasers project already has direct access, and a good allocation of telescope time on 2m, 1m and 0.4m telescopes in the Las Cumbres Observation remote network, to allow students to gather research quality data which is used in partnership with international comet researchers, and also supplies a significant number of observations to Richard Miles' Mission 29P observing campaign. But a new application would allow for expanding into different areas e.g. asteroid, exoplanet, variable star work.

For me, partnering the BAA Observing Section expertise with schools and students is a key objective for our E&O Section, and in this case, we have students actively asking us to help them. We know that the E&O Section, and the BAA more generally, has a number of people who either teach or regularly work with schools, so we'd really like to include you in our discussions for what is possible and then in delivery too. Drop me an email if you'd like to be involved.

EandO@britastro.org □

Project Helios



Stuart Green

Back in June 2024 I was contacted by the famous British multi-disciplinary artist, Luke Jerram <https://www.lukejerram.com/> whose work includes giant seven metre diameter sculptural representations of Mars, the Moon (Museum of the Moon) and Earth (Gaia). These artworks have been displayed around the world in various iconic settings including, in the UK: the Natural History Museum, The Old Royal Naval College, London and various Cathedrals, and have attracted many thousands of visitors, eager to view his work first hand. Indeed, his

work attracts significant media attention, such is the interest from the general public in his creations. He wanted to know if I could help with his next project by providing him with close-up views of the Sun. Of course....I said "YES".

My name is Stuart Green and I'm a retired PhD Materials Scientist, having worked in technical/managerial roles in the polymer and composites industry all my working life. Now retired, I'm able to devote more time to my solar imaging hobby...at least, that is, when the Sun is shining. I've produced award winning images of the Sun and I'm a Fellow of the Royal Astronomical Society and member of the British Astronomical Association. When Luke reached out to me, I immediately recognised a chance to participate in a solar outreach opportunity, potentially with enormous reach.

Our collaboration began with me providing Luke with a few sample images taken on my 150mm solar telescope operating at about f34. This is fitted with two hydrogen alpha filters to isolate a narrow sliver of the hydrogen alpha line at 656.28 nm and a small Basler machine vision monochrome camera (asA1920-155 um with Sony IMX174 sensor) to record the view. After a little experimentation by Luke and his graphic designer, Emily, the images were successfully up-scaled from my relatively small images to the much larger reproductions required for the project. Test printing in high resolution proved successful, with the achieved colours and definition exceeding Luke's, and my, expectations (Figure 1). Delighted with the outcome, we moved on to the next stage of

image selection to cover the whole canvas, which was roughly ten metres tall and twenty one metres wide, as required to 'wrap' around and create the sphere. It isn't possible to capture images of the whole Sun in high definition as it stands at one moment in time, for obvious reasons. Instead, we created a composite image made from a collection of images taken between 2018 and 2024. These included some notable active regions/sunspots and calmer chromosphere images, which formed the backdrop onto which the active regions were digitally added by blending. The resulting composite image was digitally very large and required a significant amount of computing power to render. Emily did a fantastic job setting out and blending all the images together.

Multiple printed panel sections were assembled to create the final artistic representation of the Sun with internal shimmering illumination adding to the overall effect. The scale is 1:200 million, so at 7m in diameter, Earth would be a mere 6.4 cm diameter sphere orbiting at a distance of 750m (0.5 miles), which certainly puts things into perspective.

The artwork has been co-commissioned by National Trust, Cork Midsummer Festival, Liverpool Cathedral, Old Royal Naval College and University College London. The first venue for the display was the Bath Assembly Rooms, which opened to the public on January 11th 2025. It is also on display at the Old Royal Naval College, Greenwich, London (Figure 2) and is set to be on display at Liverpool's Anglican Cathedral in April with other venues slated through 2025. For anyone interested, a full list of confirmed displays in the UK can be found here:

<https://my-helios.org/tour-dates/>

Other venues are in development.

It has been extremely satisfying for me to have been involved with this project. My hope is that the work will inspire, educate and create a sense of wellbeing to those who view it in person. Anything that brings the awesomeness and wonder of the solar system to the masses has to be a good thing. Right?

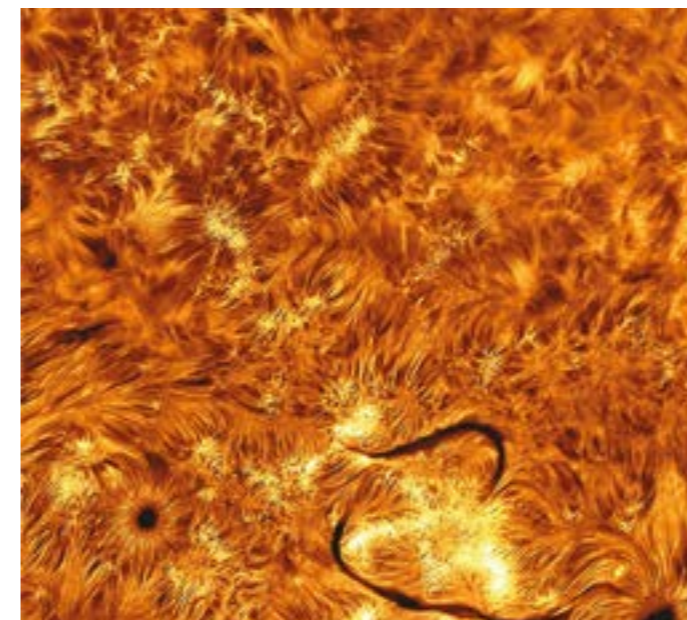


Figure 1: Detailed view of the printed surface
Photo by Luke Jerram



Figure 2: Helios in the Painted Hall at the Old Royal Naval College, London. Photo by Luke Jerram ☐

International Astronomy Show – 14th September 2024

Alexandra Hart

The International Astronomy Show in Coventry was held on Saturday 14th September 2024. Unusually the day dawned bright and sunny and both Helen Usher and I packed our cars with solar telescopes in the hope of being able to set up at the International Astronomy show car park if there was space and we were given permission. The organisers were more than happy for us to set up and we picked a convenient grassy embankment by the car park next to the mobile eateries. A good place to attract everyone seeking lunch outside and in the sunshine too.

We had three telescopes set up on the day displaying a range of brands and wavelengths. A double stack hydrogen alpha Coronado PST, single stack Solarscope hydrogen alpha front mounted etalon and a SeeStar S50 showing white light images of the Sun to anyone wishing to connect their phone to it. Also, we had a pocket spectroscope for demonstrating where the relevant Fraunhofer lines are and eclipse glasses for the casual observer, which were eventually given away to two young people.

We had maybe around 30 people stop by during the day and observe through the telescopes as we were very lucky with the weather. We had some lovely conversations about solar observing, especially about the potential of the SeeStar for outreach. It was great getting people who had heard of, but never seen/operated a SeeStar, to have a go. People were very willing to download the app and then control the scope, and took their own photos and saved them on their own phone. A fun day, with many lovely people.

One result of this outreach session was acquiring a

connection with a child from Newstead Wood School in Orpington who invited Helen to come to her school to deliver a voluntary session (from 4-5pm) about astronomy at the school in January this year. Helen ended up with a full classroom of primarily girls (it is a girl's school with co-ed sixth form), who were all super keen. It was a lovely session, and the start of a possible ongoing relationship. This only happened because of the contact we made during our outreach at IAS. It could become a good test bed for some of our E&O ideas for linking youngsters with the BAA in the future, including using remote telescopes to get over the weather, light pollution, equipment, time, expertise issues. A SeeStar bought at the IAS was proudly brought to this session, unfortunately the weather was poor, so the girls were encouraged to try some sunspot monitoring with the group during subsequent lunchtimes. More about this day will be included in the next newsletter. ☐



Comet Chasers and the BAA

Paul Roche, Professor of Astronomy Education, Cardiff University

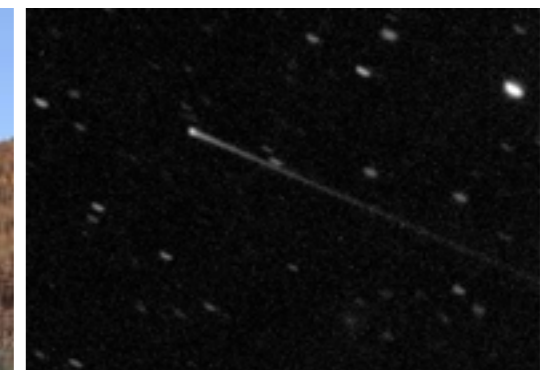
[comet-section-overview/mission-29p-2](https://www.baa.org.uk/comet-section-overview/mission-29p-2)).

I've always been a great believer in the value of Pro-Am collaboration. My first connection with the BAA was way back in 1990, when as a PhD student I first encountered Roger Pickard and the Variable Star Section. This led to various visits to Roger and Crayford Astronomical Society, and the inclusion of about 50 years of naked-eye and photoelectric photometry on X Persei in my thesis. In my later role with the Faulkes Telescope Project I worked closely with Richard Miles to develop an asteroid observing programme, which ultimately evolved into what is now Comet Chasers (<https://www.cometchasers.org/>).

Comet Chasers was established by Helen Usher as part of her PhD research at the Open University and has now developed into an international collaboration with professional and amateur astronomers and STEM educators in 20 countries. The Comet Chasers approach is to engage participants with 'missions', targeted observing campaigns focussed on a specific comet or asteroid target, such as the NASA DART mission back in 2022. Currently Comet Chaser observers are engaged in monitoring 6 comets but the longest-running programme is a monitoring programme on the unusual Centaur 29P/Schwassmann-Wachmann 1, and linked to Richards' BAA-hosted 'Mission 29P' website (https://britastro.org/section_information/

This programme has been gathering observations of 29P using the 2-metre Faulkes Telescopes since 2014, and then the extended Las Cumbres Observatory (<https://lco.global/>) network of 1-metre and 0.4m telescopes, and combining them with amateur observations from BAA members and international collaborators. LCO provides the less frequent but higher precision, higher resolution observations that complement the volume of data provided by the amateur community. Several research papers have already emerged from the Comet Chasers programme, and two current PhDs will make extensive use of the data and learning outcomes from this work.

Comet Chasers has demonstrated the potential of a well-organised, co-ordinated and targeted observing campaign (led by a motivated and driven amateur, supported by fellow amateurs and professionals!) to deliver research-quality, publishable data, harnessing the strengths of pro-am-schools collaboration in the field of asteroid and comet science. Many other areas of observational astronomy could benefit from a similar approach, and I look forward to rolling out the Comet Chasers model to more of the BAA sections in the coming years – 'Sun Spotters' or 'Exoplanet Explorers' anyone?!



Above: Image obtained by the Comet Chaser schools using the 2-metre Faulkes Telescope North (operated by Las Cumbres Observatory), showing the impressive tail of active asteroid 248370 (2005 QN173)

Left: The school celebrating their observations being used, and credited, in a published research paper. ☐

Helen Usher

Remote Telescope Access Opportunities (Free!)

If you are working with schools or clubs, then there are some great options for access to high quality, remote telescopes for everything from making fantastic pictures to undertaking scientific research. Here are a couple to get started – if you know of more then please share the details with us.

The Schools Observatory

The Schools Observatory *‘supports educators to bring astronomy into the classroom – through taking observations on professional telescopes around the globe, to providing bespoke school astronomy software and hundreds of educational resources - all for free.’*

There has been a significant development with the Schools Observatory in the last 6 months as it now works in partnership with the Dill Faulkes Educational Trust. The telescope time that used to be available through the Faulkes Telescope Project is now managed as part of the Schools Observatory.

Anyone can access some of the resources on The Schools Observatory site <https://www.schoolsobservatory.org/>. As an educator you can register and get different levels of access, including the ability to schedule observations and even take direct control of a 2m telescope in Hawaii or Australia for half an hour.

Global Sky Clubs

Global Sky Clubs offers access to LCO’s global network of robotic telescopes and world class, award winning educational resources. The program is targeted at clubs who have some experience making astronomical observations and would like to start an investigation or research project. <https://lco.global/education/global-sky-clubs/>

They offer 10 hours on the 0.4m robotic telescope network. With this amount of time you will be able to investigate deep sky objects like star forming nebulae, variable stars and even exoplanets. LCO is suited to taking time-series observations, for astronomical events that change, and because of the efficient autonomous scheduler you can achieve a lot with just a few hours of telescope time.

To get you started, they provide training on the LCO observation portal, the open access data archive, and using LCO data with a variety of analysis tools.

Any school astronomy or science club can apply. The club can be organized by a teacher, lab tech, or an external mentor (e.g. amateur astronomer). As

long as the club is organized for school students in an educational setting.

Partial Solar eclipse – 29th March 2025

Don’t forget the upcoming partial solar eclipse at the end of March. This falls on a Saturday so a convenient day for getting out and organising an eclipse event in your local area. We are currently putting together some resources which we hope will be available on the E&O Section of the BAA website in March. For anyone wishing to purchase some eclipse glasses to give away, this site might be of interest to you:

<https://gostargazing.co.uk/solar-glasses-for-the-march-2025-partial-eclipse/>

Look up! Working together to bring astronomy to people across the UK

Like to listen to an excellent motivating lecture on Education and Outreach? Copy the link here, sit back with a cup of tea, and enjoy Jenny Shipway’s thought-provoking Royal Astronomical Society talk.

https://www.youtube.com/watch?v=v1mInVm8dN4&ab_channel=RoyalAstronomicalSociety



Amazing Resources Corner

(a place to share any cool resources you’ve found)

The National Astronomy Week theme was Chasing the Moon. NASA has some fantastic resources for visualising and exploring the Moon.

<https://science.nasa.gov/moon/interactives/#:~:text=MoonTrek,conduct%20measurements%20of%20surface%20features.>

Funding Opportunities

STFC

Public Engagement Spark Awards 2025A <https://www.ukri.org/opportunity/public-engagement-spark-awards-2025a/>

Award range: **£5,000 - £20,000**

Opening date: 27 February 2025 9:00am UK time

Closing date: 24 April 2025 4:00pm UK time

Apply for funding to engage the public with Science and Technology Facilities Council (STFC) supporting science, people, technology or facilities.

You must work for an organisation that: is based in the UK; and produces annual accounts certified by an accountant.

Proposals must have clear links to the STFC’s remit and include a subject matter expert in an STFC funded area e.g. astronomy, solar and planetary science.

The scheme is not subject to the full economic cost (FEC) process. The cost of your project can be up to £20,000. STFC will fund 100% of the project cost.

Projects are expected to be between 12 and 36 months in duration.

Applicant eligibility

Almost anyone can apply for a Spark award, including: schools, museums, science communicators, universities & colleges, community interest companies, libraries, community groups, and **amateur astronomy groups**.

The project lead must be eligible to apply on behalf of the organisation that would hold the award. Every application must include a subject matter expert (SME) in an STFC funded area of science or technology.

<https://www.ukri.org/councils/stfc/remit-portfolio-and-priorities/>

Institute of Physics

The Public Engagement Grant Scheme (PEGS) aims to support the IOP Limit Less initiative <https://www.iop.org/strategy/limit-less> by funding projects that meaningfully engage whole family groups (including parents/carers) to improve their relationship with physics. This could be by showcasing

relatable role models of those doing physics, actively challenging stereotypes and preconceptions, sharing positive messages about physics, and more!

<https://www.iop.org/about/support-grants/public-engagement-grant-scheme>

IOP are accepting applications on a rolling basis from Monday 3 February to Monday 1 September 2025 and have two decision-making points during the year.

Round 1: Applications received between 3 February and 5 May. Applicants will receive a notification of the outcome of their application in early June, and payment no earlier than the end of June. Projects funded in Round 1 must start in 2025 and should be completed by 31 December 2025.

Round 2: Applications received between 6 May and 1 September. Applicants will receive notification of the outcome of their application in October, and payment no earlier than the end of October. Projects funded in Round 2 must start in 2025 and should be completed by 30 June 2026.

Who can apply?

There are very few limits to who can apply. The scheme is open to individuals and organisations in the UK and Republic of Ireland who are passionate about promoting engagement with physics!

How much you can apply for?

Seed Fund: Grants of up to £500 to build new partnerships between physicists and non-physicists.

Main Fund: The minimum grant award is £500. You can apply for up to £4,000 to run physics-based activities in the UK and Ireland.

For more information, and to see if you meet the eligibility criteria, download the supporting document on the Main Fund (PDF, 144KB).

<https://www.iop.org/sites/default/files/2025-01/public-engagement-grant-scheme-criteria-2025.pdf>

□

Astronomy After-School Club



Srilakshmi Ramakrishnan

Introduction

The concept of afterschool clubs came from the idea of giving children access to astronomy education in a sustainable and engaging way. These clubs are open to students who are genuinely interested or willing to learn, making them a fantastic way to spark curiosity and build long-term interest in space science. Since the sessions run over an entire term, students get the chance to explore a wide range of fascinating topics in depth.

My passion for astronomy began when I was around 11 years old, and I see that same excitement mirrored in the students who attend these clubs. Currently, I run astronomy afterschool clubs at two schools in London John Ball Primary School and Blackheath High School (GDST), catering to students from Year 3 to Year 6 (ages 7 to 11).

Purpose and Goals of the Club

The astronomy afterschool

clubs aim to spark curiosity about the universe and make learning about space fun and accessible. Through hands-on activities and engaging discussions, students get to explore exciting topics about the cosmos.

The main goals of the club are:

- 1. Learning About Space:** Helping students understand things like planets, stars, and galaxies.
- 2. Encouraging Curiosity:** Inspiring students to ask questions and explore new ideas.
- 3. Building Skills:** Developing observation, problem-solving, and teamwork skills.
- 4. Inspiring Future Interests:** Sparking an interest in science and space for the future.
- 5. Boosting Confidence:** Encouraging students to share their ideas and feel proud of what they learn.

The club offers a fun and supportive space for students to dream big.



Activities and Format of the Club

The astronomy afterschool clubs are designed to be interactive and fun, with a variety of hands-on activities and learning experiences. Here's what a typical term looks like:

Solar Observation: We use tools like the Coronado PST and S50 Seestar to safely view the Sun and learn about solar activity.

Expert Talks: Guest astronomers, such as Paul Roche from Cardiff University and Hayden Goodfellow from the Glasgow Science Centre, share their expertise and experiences through online talks.

Hands-On Experiments: Students engage in fun activities like:

- Making moon craters to understand their formation and impact.
- Building pinhole cameras for safe solar eclipse observation.
- Constructing hydraulic and Alka-Seltzer rockets to learn rocket principles.

Stargazing and Virtual Observation:

- Setting up real-time telescope viewing sessions.
- Using virtual telescopes to capture images of comets.

Learning with Technology:

- Exploring Stellarium and other simulations to understand celestial phenomena.
- Simulating gravity on different planets.

Unique Experiments:

- Exploring the transit of celestial objects with the "rotato" experiment.
- Learning about comets, including Comet 67P.

Space Rocks and Fossils: Students experience handling real space rocks and dinosaur fossils, adding a tactile element to their learning.

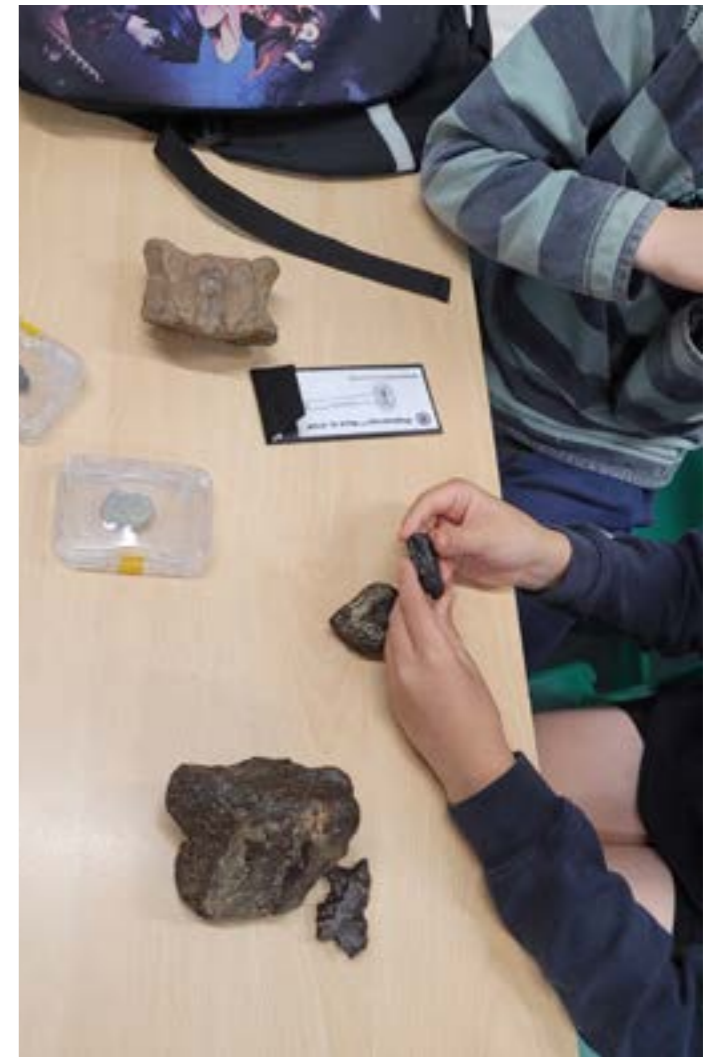
Scale of the Universe: Hands-on activities to understand the vastness of the universe and the distances between planets.

These activities ensure that students are actively engaged and constantly learning through exploration and discovery.

One memorable experience was when the students built and launched their own rockets. Watching their excitement as the rockets soared into the sky was incredible. It was a hands-on way to learn about the principles of rocket science, and their sense of pride and accomplishment made the moment unforgettable.

Impact on Students and Benefits of Astronomy Education

The impact of the astronomy afterschool clubs on students has been both inspiring and transformative.



Many students leave the club with a deeper curiosity about the universe and a newfound appreciation for science.

Through the hands-on activities and interactive learning, students develop critical thinking skills and learn to approach problems creatively. Observing celestial events, conducting experiments, and exploring simulations help them grasp complex scientific concepts in a fun and engaging way.

The clubs also boost students' confidence, as they are encouraged to share their ideas, ask questions, and present what they have learned. For many, the experience sparks an interest in STEM fields, inspiring future careers in science, technology, engineering, and mathematics.

Challenges and Lessons Learned

Running the astronomy afterschool clubs has been an incredibly rewarding experience, but there have certainly been challenges along the way.

One of the main difficulties is dealing with light pollution, especially in London. Since stargazing requires dark skies, it can be hard to find ideal outdoor spots for observing celestial events. Additionally, with the early sunset times during the winter months,

there's limited opportunity for outdoor activities like telescope viewing.

Another challenge has been the varying technology setups in each school. Every classroom has different monitors and connection systems, which can make it tricky to connect laptops, USB sticks, or projectors during presentations, particularly when guest speakers join us online. I've spent a fair amount of time troubleshooting and figuring out how to connect everything smoothly, especially when there's a special guest speaker who needs to share their expertise.

Despite these challenges, I've learned to be adaptable and resourceful. Whether it's finding new ways to engage students indoors or finding creative solutions to tech problems, each obstacle has made the experience richer and more rewarding.

Tips for Starting a Club or Getting Involved in Astronomy Outreach for Young Children

Starting an astronomy club or getting involved in outreach for young children can be an incredibly rewarding experience, but it's important to plan carefully to ensure the activities are engaging and educational. Here are a few tips to help get started:

- **Start with Simple, Fun Activities:** Keep activities hands-on and interactive. Children respond well to things like making moon craters, building rockets, or using virtual tools like Stellarium to explore the night sky. Simple experiments and DIY projects can make complex ideas more accessible and fun.
- **Use Technology Wisely:** Tools like virtual telescopes and astronomy apps can be great for exploring space when you can't observe it directly. Platforms like Stellarium are perfect for showing students how the night sky looks from their location.
- **Incorporate Guest Speakers and Experts:** Bringing in guest speakers, like astronomers or science communicators, can be a great way to excite students. Online talks can be especially useful for introducing them to experts in the field and showing them real-world applications of what they're learning.
- **Get Creative with Learning:** Astronomy can sometimes be abstract, so using hands-on experiments (like building pinhole cameras or exploring gravity with simple simulations) helps children connect the concepts with real-world experiences.
- **Be Prepared for Technology Challenges:** Be ready to deal with different technology setups in schools or venues. Spend some time testing equipment, and make sure you have backup plans

for when things don't go as planned.

- **Foster Curiosity:** Encourage children to ask questions and explore their own ideas. Let their curiosity drive the activities and discussions. Children love discovering new things, and being able to follow their own interests will make learning more exciting for them.
- **Provide Resources for Continued Learning:** Offer suggestions for children and parents to continue learning outside of the club. There are many free online resources, apps, and books that can support their growing interest in astronomy.
- **Build a Supportive Community:** Create a space where students feel comfortable sharing their ideas, making mistakes, and asking questions. Building a sense of community helps foster teamwork and ensures students feel motivated to keep learning.
- **Start Small, Then Grow:** If you're just starting out, don't feel pressured to do everything at once. Begin with a few simple activities and grow from there. Once you build momentum and see the students' enthusiasm, you can expand the scope of the club.
- **Inspire Future STEM Interest:** Use astronomy as a gateway to inspire broader interest in science, technology, engineering, and mathematics (STEM). Show students that there's much more to space than just stars—there's math, physics,



engineering, and creativity involved too!

Future Plans

Looking ahead, I have several exciting plans to grow and expand the astronomy clubs. One of my goals is to organize **astronomy camps** during school holidays, where children can immerse themselves in space science over a longer period of time. These camps will allow us to use **planetarium domes** for an even more engaging experience, giving students hours of hands-on activities and stargazing, rather than the limited time available in a typical one-hour afterschool session.

I also plan to **expand the afterschool clubs** to other schools, especially focusing on reaching children in more **deprived areas**. I believe every child should have access to the exciting world of astronomy, regardless of their background. By offering opportunities to experience activities like **moonwatching** and **solar observing**, I hope to give them the tools and experiences they need to ignite their curiosity and passion for science.

Conclusion

Running these astronomy clubs has been an incredibly fulfilling journey, both for me and the students. The joy of seeing children's faces light up as they learn about the stars, planets, and the wonders of the universe is indescribable. Watching their curiosity grow and knowing that I've played a part in sparking that interest is one of the most rewarding experiences.

I encourage readers to appreciate the value of astronomy and its power to inspire young minds. Whether through afterschool clubs, community outreach, or simply stargazing at home, there are countless ways to get involved in this exciting field. Astronomy has the potential to spark a love of learning, build essential skills, and open up a world of

Towpath Astronomy

Alexandra Hart

Only two pop up sessions occurred during September to December as unfortunately the weather was poor on many weekends.

On the last weekend of October, I set up the double stack Coronado hydrogen alpha PST and Calcium K PST on the towpath by bridge 13 on the Middlewich Branch of the Shropshire Union canal (nr Church Minshull). Two lovely young girls walking their dogs stopped by to look through the telescopes and asked lots of questions. Both were amazed to see the prominences on the Sun and never realized you could see these features.

possibilities for future generations. □



The second was between Christmas and New Year located at Coole Pilate visitor moorings on the Shropshire Union canal where one man came and enjoyed the views from both the hydrogen alpha and Calcium K Sun via the computer screen with the live video feed. He was lucky enough to witness a M1.69 class flare at 12:19-12:53 UTC live. □

If you have any outreach or events you wish to share (no matter how small or large) in the next issue of E&O newsletter, please e-mail EandO@britastro.org with newsletter in the title before 30th April 2025.