Stargazing Grants

Final Project Report

www.sciencecentres.org.uk/projects/stargazing

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UK Association for Science and Discovery Centres

Science & Technology Facilities Council

DARK SKY DISCOVERY

Contents

Executive Summary

In the first half of 2012, The UK Association for Science and Discovery Centres (ASDC), in partnership with the Science and Technology Facilities Council (STFC) offered small grants of £1,500 to science and discovery centres and science museums to facilitate stargazing events across the UK.

The aim of the project was to 'support the Dark Sky Discovery project across the UK by creating local and regional partnerships between the science and discovery centres and Dark Sky Discovery partners, in order to maximise the opportunities for the UK public to engage with the stars'.

Dark Sky Discovery (DSD) is a pioneering new national and regional partnership of astronomy and environmental organisations led by the Science and Technology Facilities Council (STFC) that launched in October 2011. The partnership leader is Dan Hillier based at STFC's Royal Observatory Edinburgh Visitor Centre. The network brings together national and local astronomy groups with community groups, open space organisations and schools to help people of all ages explore and enjoy the night sky (www.darkskydiscovery.org.uk).

ASDC launched the grants in January 2012, inviting ASDC members to apply for the grants via a competitive selection process. ASDC also ran a bidders conference call to ensure all centres had the information they needed and were addressing the core goals of the grant programme. Fifteen good applications were received and ten organisations were selected by a judging panel made up of representatives from ASDC and Dark Sky Discovery. The selected centres were offered training and support for their activities via ASDC and Dark Sky Discovery and each was awarded a grant of £1,500.

The following ten centres were selected, and they ran events and activities between March 16 2012 and May 22 2012. ASDC worked with the STFC press office and DSD to create a press release for the project and the first event at Science Oxford.

Overall, the project developed lasting relationships between Dark Sky Discovery groups and ten science and discovery centres and museums, many of whom are already planning further stargazing events together. Events included star parties, meet the astronomer, telescope workshops, planetarium shows, hands-on space activities and bringing together the public with research astronomers and amateur astronomers from the Dark Sky Discovery group.

Centre	Location	Event Date
Science Oxford	Oxford	16 March 2012
National Museums Liverpool	Liverpool	23 March 2012
Intech	Hampshire	24 March 2012
Centre for Alternative Technology	Machynlleth, Mid-Wales	06 April 2012
Dundee Science Centre	Dundee, Scotland	12 April 2012
Techniquest Glyndŵr	Wrexham, North Wales	12 April 2012
Armagh Planetarium	Northern Ireland	24 April 2012
Woolsthorpe Manor	Lincolnshire	27 April 2012
At-Bristol	Bristol, South West	30 April 2012
MOSI	Manchester	22 May 2012


Dundee Science Centre
Royal Observatory Edinburgh
Armagh Planetarium
MOSI
National Museums Liverpool
Techniquest Glyndwr
Woolsthorpe Manor, National Trust
Centre for Alternative Technology
Science Oxford
Science and Technology Facilities Council (STFC)
ASDC
At-Bristol
INTECH

The Events

All the events are on the ASDC website

Science Oxford

Event Date: 16 March 2012

Introduction

Stargazing at Science Oxford Live started its life in Autumn 2011 as a collaboration between Science Oxford Live (SO) and The British Science Association (BSA) Oxfordshire Branch.

Once the ASDC-STFC Stargazing funding became available in early 2012, Stargazing at Science Oxford Live grew considerably. Science Oxford (SO) applied for the park immediately adjacent to the centre (South Park) to become the region's first Dark Sky Discovery site. Other partners also became involved, namely Oxfordshire Science Festival, Abingdon Astronomical Society (AAS), Oxford University Astronomy Group, Bradford Robotic Telescope, and Oxford University Astrophysics Department.

The event was publicised as being suitable for 13 years old and over. It was marketed via the SO, Oxfordshire Science Festival and BSA mailing lists, websites and printed material. Press releases were also sent out about South Park's designation as a Dark Sky Discovery site, which were picked up by local radio. Bookings were managed via SO's online and phone booking system.
With a few days to go, the event had sold out, with 85 bookings. Of these, 7 were Science Oxford members and got in for free, and 78 paid (£5 per head, or a group ticket at £16 for up to 5 people).

What was planned

The event had both cloudy weather and clear weather alternatives. We obviously hoped for clear weather, in which case Scott Marley from Bradford Robotic telescope would give a short introduction to stargazing, finishing by 7pm. At that point we would take everyone over to South Park, where we would have 8 telescopes (of varying quality) operated by volunteers from the different partner organisations. These would be looking at the different celestial objects visible that night, which gave a rare opportunity to see Mars, Venus Jupiter and Saturn all on the same evening.

In the case of cloudy weather we would have an extended talk by Scott, followed by an ‘astronomy fair’ in the ‘Discovery Zone’ on the ground floor of Science Oxford Live. This would have stands from the different partner organisations, and some hands on interactive activities.
In either case, it was planned that each participant would get a bag containing activities to do when they got home. In particular, this included some sheets introducing people to Celestia and Stellarium

(two pieces of free downloadable 'virtual planetarium' software). These were produced by the local BSA branch. They also received a copy of the Exscitec cut out cardboard planisphere, which were bought by SO. In addition, the bags included a variety of publicity materials for the partner organisations.

The Event

It became apparent with a few days to go that it was very unlikely that we were going to have clear skies on that evening. We therefore ramped up our Cloudy Weather Plan, asking some of our partners to also give brief presentations as part of the formal part of the event. As a result, we had presentations from Scott Marley which included an introduction to Celestia, Stellarium, and planispheres (around 45 minutes); Phil Marshall from Oxford University Astrophysics Dept talking about the Zooniverse citizen science project (www.zooniverse.org, 10 minutes); and Michaela Livingstone from ASDC talking about Dark Sky Discovery (10 minutes).

As part of the Cloudy Weather Plan our partner organisations provided more hands on activities. The two local astronomy groups set up some of their telescopes inside the building; AAS showed some of their members' photographs. We borrowed a "Magic Planet" from Rutherford Appleton Laboratory (RAL) and Phil Marshall showed some of the activities available on Zooniverse.

These changes meant that we felt that we had given people value for money as far as the event was concerned, even though the main activity was closed off to us by the weather. Of the 85 people who booked, 69 came to the event. In addition, 11 people showed up without booking and so we were able to accommodate them. Although there were a few children under the age of 13, there were fewer than we would normally expect, and the majority of participants were within the target age range. As a result of the last minute changes we made, the event started a little later than planned at around 6.45pm. The formal section ran until around 8pm, and people then moved into the Discovery Zone for the Astronomy Fair. There was an excellent level of engagement throughout, and informal feedback was uniformly good, with people staying beyond 9pm (the scheduled finish time).

Learning points

The event was a collaboration between organisations involved in astronomy and public engagement in the county, not all of whom had worked together previously. For instance, this was the first time that SO had worked with the BSA branch, and it was the first time that either SO or the BSA branch had worked with AAS. The event also meant that SO was able to broker a deal for Oxford University Astrophysics Dept to borrow RAL's Magic Planet for an astronomy event they were running a fortnight later.

These partnerships have proved very valuable. SO and the BSA branch are collaborating on another event (on microscopy) in Autumn 2012, and there is a strong possibility that we will run another Stargazing event in Spring 2013.

National Museums Liverpool

Event Date: 23 March 2012

The event on March 23rd, funded by ASDC and STFC was the fourth Stargazing event run by National Museums Liverpool; our previous three events were held in World Museum, our venue in the city centre and home to the planetarium and physical sciences collections. For this event we decided to move to one of our other venues Sudley House, removed from the city centre with hopefully better viewing conditions.

The event was promoted on our website and via social networking, it was also featured in the Liverpool Echo and on local BBC radio, in addition it was promoted after planetarium shows in the week leading up to it and also on posters around both venues. It was free (like our previous events) and aimed at the local community, families with young children and we also targeted some local community groups working with people with physical and mental health disabilities, although uptake from these groups was low. In total we had around 230 people attend the event, roughly a quarter of whom were children, and it was by far the most successful stargazing event we have run.

We had a selection of telescopes available to use of varying quality, including a cardboard and MDF Dobsonian built by the planetarium team and some binoculars, plus we did impromptu naked eye observing with small groups of visitors. There were queues at the telescopes most of the night as people were eager to catch a glimpse of Jupiter, Venus and Mars. The tea rooms in the house were also open offering snacks and hot drinks to eat inside or bring back outside.

The main benefit of hosting the event at Sudley House was the improved viewing conditions; we explored the possibility of poor weather activities, including bringing a mobile dome in to run planetarium shows; however none of the rooms in the House were big enough for it, so we decided on a high risk strategy of planning an entirely outdoor event!

The weather was not poor, but we did suffer from some haze which made our planned viewing of deep sky objects impossible, however the planets were easy to spot and the naked eye astronomy was very popular as the brightest stars and constellations were visible. Many people took home sky charts and information about buying telescopes, and a good number brought their own books and planispheres with them to identify the constellations.

We had great feedback from the visitors, they all wanted to know when we would be holding another event and the staff enjoyed themselves too. The event was planned to run from 6.30 – 8pm but people were arriving at the venue from about 6pm and we finally managed to persuade the last few visitors to leave by dismantling the telescopes at 8.30.

We spent a good chunk of the grant money on a new telescope to enhance our limited collection, with GoTo technology and a CCD camera to enable us to relay the images to a screen for a wider number of people to observe and also to improve access for wheelchair users and others who find using a telescope difficult. We also invested in a powerful laser pointer to make naked eye observing sessions easier to follow. These purchases will greatly enhance any future events we run.

Our high risk strategy did not end in disaster, though because of the haze the viewing conditions were not substantially better than at World Museum, we need to look more closely at how we can provide a wet weather contingency plan for using this venue. For our events at World Museum we have the planetarium and space gallery at our disposal, and also provide gallery trails and craft activities in case of bad weather, though our city centre location means viewing conditions are not great.

We had been considering running an event at Sudley House for a while, the ASDC grant allowed us to make it a reality and also enabled us to buy some equipment that's been on the 'wish list' for some time. We hope to continue events at both venues building on what we learned, and making the best use of our now improved equipment, so thanks ASDC and STFC!

Intech Science Centre and Planetarium

Event Date: 24 March 2012

We were blessed with beautiful clear skies for our 9th Stargazing Night, which was a huge success. The grant allowed us to make the night more inclusive and appropriate for beginners, bringing in many more people than had attended previous events.

A large part of the grant was used to invest in a set of binoculars. In addition we bought a powerful laser pointer, booked professional presenters for the first time, and bought stairway lighting to provide safe access to a large, dark outside space for stargazing.

Although the event didn't officially start until 7pm, people started arriving at 4:30pm. We already had 178 visitors in the venue by 7pm and had to open the tills early! In total 443 visitors attended; a huge increase from our previous best of 250 attendees. Many were new to stargazing, and (of those surveyed) half had never been to INTECH before. And all had great smiles on their faces.

Feedback (by email): "Thank you so much for a wonderful evening of stargazing! It was truly spectacular. Everyone was so friendly and willing to share information and advice. Seeing the bands of Jupiter and three of the moons, as well as the rings of Saturn and Titan has been a long-term wish of mine, so thank you very much for giving me the opportunity to see them with my own eyes. Needless to say, I am now saving for my very own telescope!"

The event:

Our core activity was free, naked-eye stargazing. Three 30min sessions were led by presenters from the Explorer Dome planetarium, using PA and 100mW laser pointer. Ben Brown & Shaaron Leverment gave a very down-to-earth and engaging tour of the night sky, appropriate for all ages. Our free talks 30min astronomy "Aliens in the Universe" (Sadie Jones, Southampton University) and "Apollo at 40" (Jeff Geary, Andover Astronomical Society) ran three times each in side rooms. Early

talks were booked out very quickly, with a total of 183 tickets distributed. Some visitors even sneaked into the back of sold-out talks so they didn't miss out!

Visitors could borrow binoculars (with astronomy expert Ninian Boyle to help) and use telescopes, brought in by six regional Astronomy Societies. The telescopes were in two locations, giving a wide range of target objects. Telescopes at the main entrance gave a festive feel to arriving visitors.

Astronomy Societies also brought display stands and we ran a free make-a-planisphere activity, giving a nice balance to an evening which was largely about looking and listening. Visitors also took home copies of our INTECH monthly beginners' stargazing guide. Finally, to cover building and staffing costs, we ran three planetarium film shows, "Cosmic Journey" (twice) and "We are Astronomers". We sold 206 tickets at our standard rate.

We were lucky to have clear skies on the night, but had it been cloudy we would have set up the telescopes and binoculars indoors to observe tiny planets hung high in the roof and run live star-spotting shows in the planetarium and added another free talk to the programme.

Our new binoculars can be now used at other evening events (e.g. Adults Only, Cubs & Brownies), on dark winter afternoons and even for summer nature walks. We've also offered to lend these to regional Astronomy Societies running public events as a thank-you for their continued support. Having invested in this equipment, we can now repeat this new form of Stargazing Night without additional funding. Thanks to ASDC and STFC for making all this possible!

Centre for Alternative Technology

Event Date: 6 April 2012

On Friday April 6, the Centre for Alternative Technology teamed up with Dark Sky Wales to provide an exciting stargazing event celebrating the beauty of the night sky. Beginners, amateur astronomers and professional stargazers were all invited, and the evening featured talks, telescopes, a planetarium and cake.

Dark Sky Wales had hoped to offer people opportunities for outdoor observation on the night, with an expected emphasis on lunar features, as it was the night of the full moon. In the event, complete cloud cover prevented this aspect of the evening from being realised, but Dark Sky Wales are very familiar with such problems, and had come fully prepared.

Equipped with their mobile planetarium, they were able to offer an intriguing immersive experience through which people learned about the planets, the solar system, the stars and beyond. Resembling a large black igloo, the planetarium was set up earlier in the day in the restaurant of the Wales Institute for Sustainable Education building at CAT, causing much comment and speculation among the staff. They also brought materials and expertise to allow visitors to explore the engineering challenges of making their own (small) rocket.

Despite the forecast, the event was well attended, with around 120 people of all ages, including many local families. Up to 34 people could enter the planetarium at a time, and once inside were treated to a visually beautiful, entertaining and informative film about the universe. Five groups in all went through the planetarium, and though some had to wait, it was well worth it. One commented: “It was very inspiring. My father-in-law bought a telescope 2 years ago and I’ve been meaning to go out with him and look at the night sky. This event has given me the impetus to get on and do it."

While people waited for their turn to go into the planetarium they were treated to hot drinks and cake, as well as a highly informative lecture by Andy Burns, director of the Herschel Museum, who led us on a journey of what was possible to see using equipment ranging from the simplest (binoculars) to large and fairly sophisticated telescope. Questions from the audience included

inquiries about interesting juxtapositions of stars and planets we might expect to see in the near future, and whether the speaker believed that we were likely to find intelligent life in the universe (he believes it must be there – but the chances of our making contact are slim).

Andy's message was clear and strong: you don't need to be an expert, or necessarily to have fancy equipment, to enjoy exploring the night sky and perhaps even make observations that contribute to scientific understanding. Just get out there and look - and you may get hooked. "I'll definitely be out there with my binoculars on the next clear night - it's amazing how much you can see" commented one young visitor.

Suzanne Davies brought her two children for the evening, and wrote to us afterwards:
"My children and I were lucky enough to attend your recent stargazing event. My son (16) is already a keen stargazer and he found the talks we attended fascinating and informative. My daughter (11) really enjoyed making and launching rockets, and we all thoroughly enjoyed the planetarium experience. "As a family we have been inspired to venture outside on a couple of cold evenings since the event, lured by the promise of Mars and Venus being visible, and the expectation of a hot chocolate at the end of the night! "Well done to all involved – please let me know when the next event will be held"

For CAT, it was an opportunity to attract local families who may or may not have come to the site before, and to give them an educational and inspiring evening within the excellent new facilities afforded by the Wales Institute for Sustainable Education. The collaboration with Dark Sky Wales worked very well and we would definitely consider running a similar event in future.

Dundee Science Centre

Event Date: 12 April 2012

With kind support from ASDC and STFC, Dundee Science Centre along with several partners, took stargazing into the community, bringing fun, interesting and highly interactive stargazing experiences to the community of Douglas, in Dundee. Reaching new audiences, the evening was a highly engaging experience for all - giving many visitors the opportunity to study the stars through a telescope for the very first time.

Dundee Science Centre brought together Royal Observatory Edinburgh, Dundee Space Technology Centre, Dundee Astronomical Society and Dundee City Council Community Centres to deliver a unique experience for the community of Dundee.

The event celebrated the wonder of astronomy through a variety of activities, including hands-on craft making where visitors could create their own meteor or make a constellation viewer, exciting demonstrations that showed how comets are formed, presentations about noctilucent clouds, as well as a stargazing session that allowed visitors to take a guided tour of the stars using telescopes. Various sessions were run throughout the evening, with planetarium shows and comet-making demonstrations being run every half an hour, and craft-making activities running throughout.

Fortuitously, the weather was on our side, so visitors were able to witness Venus, be guided through the mythology behind 'The Great Bear' or catch a glimpse of the International Space Station, all under clear skies.

Emphasis was placed on engaging socially or economically deprived audiences, as it is widely recognised that these groups are less likely to visit a science centre or engage with such events. In order to reach these audiences, the event was held in a local community centre, which would not only make the event more convenient to get to, but also mean that the event would be held in a surrounding that the local community were familiar with, hopefully increasingly the likelihood that they would visit.

The evening attracted 25 visitors, mainly from the Douglas community, although some had travelled to the centre specifically for the event. Most visitors were families with young children, some of whom already had an interest in stars and the solar system. The event was also featured on the local online TV channel, 'Dundee Channel', which raised further awareness of the event and of current stargazing activities in Dundee.

Whilst this is less than the initial visitor target, it is important to note that levels of engagement were very high amongst those who visited, with most visitors staying for over an hour, trying all the activities and becoming immersed in the experience. This smaller number of visitors also allowed participants to spend more time with professionals, asking questions about their specific area of interest without feeling rushed. Enthusiasm was also high amongst visitors, with many visitors (both children and adults) excited about the activities on offer and the prospect of having professionals guide them around the sky at night. In addition, one young visitor felt so inspired by the evening that she took extra constellation viewers away with her, so she could share what she had learnt with her youth group, which is run regularly at the community centre.

Feedback from all partners was very positive, with many mentioning that they had enjoyed speaking to and engaging with new audiences, especially with those who had never visited an observatory or a science centre before. It was recognised by all partners that public engagement activities are new to this community, and partners very much enjoyed the opportunity to bring new and interesting experiences to them.
Delivering public engagement activities was a particularly interesting and a new experience for Dundee Astronomical Society, as often they speak only to those already interested in and knowledgeable about the subject. One partner remarked that it was refreshing to speak to those who had no knowledge of the subject, or had never had the opportunity to use a telescope.

We hope to build on the success of this event by disseminating the format of this event to other Dundee City Council Community centres, working in partnership with the Dundee City Cultural and Community Partnership, so we can offer this experience to other areas of Dundee. We also hope to work with our Dark Sky Discovery partner on various upcoming space-themed activities for schools and public, further developing the relationship we have established through this project.

Dundee Science Centre very much enjoyed the opportunity to work collaboratively with a number of partners to bring a unique, inspiring and enjoyable event to new audiences. By hosting this event in an area such as Douglas, we feel that we have whet their appetite for science learning events in the future and that we can return to host similar events in the future.

Techniquest Glyndŵr

Event date: 12 April 2012
Location: Alyn Waters Country Park and Royal British Legion, Llay, Wrexham
Cost: Free

Activities:

- Immersive 360° planetarium dome shows
- Astronomy talk from Richard Sargent, Chester Astronomical Society
- Children's crafts - make-your-own planispheres & word searches
- Guided star walks with live naked-eye, binocular and telescope stargazing.

Details of the Stargazing event:
On the evening of April 12th, Techniquest Glyndŵr (TQG) held a community stargazing event in the tranquil and beautiful setting of Alyn Waters Country Park in Llay, Wrexham.

The evening began at 6pm, whilst skies were still bright blue, with indoor activities held at the neighbouring Royal British Legion Centre. All visitors were given a Dark Sky Discovery Stargazing Guide upon arrival. Youngsters enjoyed the chance to make their own planispheres and origami stars to take away and complete word searches and other puzzles. Following on from the craft activities there was a fascinating family-friendly astronomy talk from local astronomer Richard Sargent from the Chester Astronomical Society. The session provided attendees with a great introduction to astronomy and highlighted the importance of dark sky awareness.

At the same time in the main hall, groups of budding stargazers were being entertained with 25 minute shows in Techniquest Glyndŵr's two inflatable planetarium domes. There were beginner and intermediate shows taking place simultaneously. Nearly 200 people enjoyed one of seven planetarium shows.

As dusk arrived members of TQG's presenter team led groups out into the country park on a short walk to where telescopes and trained staff were waiting. The fantastically clear sky was perfect for stargazing and conditions in the park away from the street lights were ideal. Techniquest Glyndŵr telescopes and binoculars were joined by a plethora of others brought along by members of the general public, scout groups and local enthusiasts. The stargazing continued into the night with the last few packing away their kit at 11pm.

The total number of attendees on the night was in excess of 200 as approximately 195 people took part in the indoor activities and several others joined the event directly at the stargazing. The event also attracted a local group of geocachers who decided to combine their geocaching with some stargazing and the opportunity to test astronomers' knowledge on satellites.

Feedback on the night was overwhelmingly positive with several residents from the village of Llay expressing their gratitude to TQG staff for holding an event in their locale. The following is an extract from an email received shortly after the event:

"I just thought I should write to thank you for the excellent and very enjoyable evening we had at Llay British Legion and Alyn Waters last night. My 6 year old son has just recently started to take an interest in the planets (thanks to my iphone App of all things) and it was lovely to see him transfixed as he watched the display in the dome and then the slides in the talk afterwards. Then the planets through the telescope rounded it off nicely for him.
"If you are ever likely to do something similar again we'd definitely come back and spread the word to our friends. Only other thing was that whilst you probably had reasons for not charging, we'd gladly have thrown some money into a donations bucket to make a contribution."

This is just one of many examples of feedback received during and following the event and highlights how the evening's activities complemented each other perfectly.

Techniquest Glyndŵr would like to take this opportunity to thank the UK Association for Science and Discovery Centres and the Science and Technology Facilities Council for their support and would also like to acknowledge the contribution of Dark Sky Discovery.

Armagh Planetarium

Event Date: 24 April 2012

A Night with the Stars

Armagh Planetarium was the place to be on Tuesday April 24 2012 when we held a 'Night with the Stars'. On that evening we had free digital theatre shows, arts and crafts and fascinating meteorite presentations. We were also joined by experts from the Northern Ireland Amateur Astronomy Society (NIAAS) who brought along a range of telescopes for public night sky viewing.

In our digital theatre you can relax and experience our world and beyond like never before and we had planned to screen "Experience the Aurora" twice during the evening. However, due to the demand we scheduled in an extra theatre show making three fully packed shows for the evening. As the night started off cloudy, we presented a 15 minute night sky segment before the theatre show, to show visitors what they should be seeing in the night sky.

Dr. Tom Mason, Director of Armagh Planetarium, held meteorite talks and visitors had the opportunity to see the new lunar meteorite that the Planetarium had acquired. These talks proved very popular, and positive comments were left on our Twitter page. Visitors were fascinated at being able to touch a real space rock and to learn more about what is out in the cosmos.

We also ran an arts and crafts workshop for any young visitors. This proved very popular as rockets and spacecrafts left the building during the course of the evening, being mindfully cared for by their creators. A "Stars in a Jar" workshop was the main attraction. This was the first time we had tried this workshop using glow in the dark paint and plastic jars. Children were able to create their night sky masterpieces and then bring them outside to see them glowing spectacularly in the dark.

The main attraction of the evening was the stargazing. Although the weather was cloudy, it did eventually clear up and we were able to see Mars, Venus and Saturn. It was amazing to see Saturn and its rings so clearly through the scopes. As well as the planets, we also got a lovely view of the crescent Moon.

It was great to see how many children had brought along their telescopes to join in with the viewing and the astronomy experts were very busy answering queries about the night sky and giving advice on the best telescopes to purchase. At many stages during the course of the night, queues formed to catch a glimpse of the ringed planet! The ever-helpful NIAAS members braved the chilly conditions, enthusing the crowd of on-lookers.

In total around 250 people came to visit us. Hopefully in the future we can develop this and carry on providing visitors with an outlet to do stargazing. Many people left commenting upon how they had never looked through a telescope before, and not only were they amazed by what they seen, but they will be purchasing one and visiting us again!

It would be great to work with our Dark Sky Discovery team again as it is clear how much people are interested in learning more about our world and beyond. The grant enabled us to make links with industry experts and allowed us to host the event free and target people who may not have known about us and the work we do. It also enabled us to try new workshops which we are implementing in the future.

Woolsthorpe Manor (Birthplace of Isaac Newton)

National Trust

Event Date: 27 April 2012

Seeing Stars

Woolsthorpe Manor held it's first ever Stargazing event on the evening of 27th April 2012. The event was aimed at Key Stage 2 children and their families. We marketed with book bag flyers, mention in school assemblies and through parent mail (emails to parents). Local Scouts and Brownies were invited by phone through the local scout leaders.

The event took place between 7.30pm and 9.30pm on two sites, Woolsthorpe itself and the local village hall which is a five minute walk away from the manor. Cars parked at the manor and guides in high visibility jackets directed people to Woolsthorpe Manor's Science Discovery Centre where they were told about the evenings activities and booked onto the planetarium show.

StarLincs set up the mobile planetarium in the village hall where they held four performances. We had planned to position our 6 local amateur astronomers in two different locations; in the north orchard at the manor and on the playing fields at the village hall. The weather however, was not kind and we had rain. The astronomers, undeterred, set up their telescopes inside the Science Discovery Barn at the manor and inside the village hall. They also brought some information panels for visitors to read.

96 people took part in the event, including families, brownies and scouts. They all visited the planetarium and the vast majority listened to the talk and chatted to the astronomers. The children made mobile planetariums, star tubes and paper rockets that they launched from an air powered launcher (this was a huge hit!). The Star Charts were given out to everyone who visited, but there was not a star to be seen!

We would love with Dark Sky Discovery again. The next star gazing evening will aimed at an adult audience. StarLincs, the amateur astronomers and Julian Onions have all expressed an interest in helping us to run another event and Julian has talks prepared on the big bang theory and dark matter. So watch this space…..

Thanks to everyone who helped to make this event a success.

At-Bristol

Event Date: 30 April 2012

Urban Stargazing

The evening saw At-Bristol and Exmoor Dark Sky Discovery run Urban Stargazing, an adults-only (ages 16+) astronomy event. Assistance, equipment and expertise were also provided by the Bristol Astronomical Society, Exmoor Stargazers, and Dr. Aude Alapini from the University of Exeter.

Organised activities included:

- Telescopes and binoculars for attendees to examine and use
- A Telescope Clinic run by knowledgeable stargazers
- Ask an Astronomer sessions
- Planetarium shows
- An exoplanet presentation
- Hands-on activities, including meteorite handling and tasting space ice-cream
- A fully licensed bar

There was a great deal of interest from the local community regarding Urban Stargazing, which led to the event being a complete sell-out with 200 attendees. The weather proved to be against us on the evening but this didn't dampen people's enthusiasm as we simply set up the telescopes inside and used them as talking pieces. Weather-proof activities, such as comet building with dry ice, were very popular and most welcome given the rain outside. The bar also enjoyed a steady stream of visitors, many enticed by a signature drink made especially for this event: the At-Bristol supernova!

At-Bristol and Exmoor Dark Sky Discovery both found Urban Stargazing to be beneficial, in terms of reaching new audiences, communicating science, and inspiring people to take an interest in the night sky and issues of light pollution.

At-Bristol now routinely mention Exmoor National Park's Dark Sky status in our Planetarium shows, where we contrast the quality of city skies with those that have significantly better observing conditions.

At-Bristol are planning to make Urban Stargazing evenings a regular occurrence, and are talking with Exmoor Dark Sky

Discovery, Exmoor Stargazers, and the Bristol Astronomical Society to establish longer-term partnerships as a legacy of the project.

Questionnaires were completed by visitors in order to help with evaluation. Despite the fact that no stars could be seen because of the clouds, the event had positive feedback overall. The elements of the evening were well participated in (mean 82%). Each element was rated by participants according to how enjoyable, useful or valuable they found them. The results are summarised in the table below:

	Like	**Like %**	**Middle**	**Mid %**	**Dislike**	**Dislike %**	**%take part**
"Ask an astronomer" / exoplanet hunter	44	95.7%	1	2.17%	1	2.17%	72%
Planetarium Show	61	95.3%	2	3.13%	1	1.56%	100%
Hands-on activities e.g. meteorite handling	51	91.1%	3	5.36%	2	3.57%	88%
Info about Dark Sky Discovery and more	50	89.3%	5	8.93%	1	1.79%	88%
Telescope Clinic	35	87.5%	3	7.5%	2	5%	63%
Meeting others with an interest in astronomy	47	87%	6	11.1%	1	1.85%	84%
Licensed Bar	39	73.6%	5	9.43%	9	17%	82%

Museum of Science and Industry, Manchester

Event Date: 22 May 2012

Stargazing in the City

The Museum of Science & Industry (MOSI) joined forces with its local Dark Sky Discovery partner Manchester Astronomical Society (MAS) to host 'Stargazing in the City' – an evening event that introduced 30 local teenagers to the wonders of the night sky in a fun, quirky and participatory way. Highlights included a new planetarium show, a guide to virtual stargazing, a quiz show, and some real gazing with the experts. The event received great feedback and more collaborations are hoped for in the future, particularly during the stargazing season (Oct—Mar) when evenings get darker much earlier.

Background

MOSI wanted to create an event for teenagers, an age group that had not been catered for at previous astronomy events such as family-friendly astronomy days (aimed at MOSI's core family audience) and adult evening events. MAS members were keen to be involved as it would provide an opportunity to promote astronomy to a new audience, gain public engagement experience and raise awareness of the Society.

Based at the historic Godlee Observatory in the centre of Manchester, MAS encourages the study of astronomy for both newcomers and existing enthusiasts. MOSI is situated just across the city centre and houses a planetarium, accessible venue space for events and has a strong team of public engagement professionals skilled in bringing science topics to life for visitors. By combining MOSI's

venue and public engagement skills with the astronomy expertise of MAS “Stargazing in the City” was developed.

The event

The event took place on Tuesday 22nd May 2012 from 7pm – 9pm at MOSI. It was marketed on the MOSI website, through social network sites and on posters around site. The event was advertised for the 14-19 age group but proved most popular with the under 16 age bracket. All available places were booked with 30 teenagers and accompanying adults attending. Four members of MOSI staff ran the event alongside four MAS members.

Activities

Solar Telescope

As it was a beautiful sunny evening, MAS started off by setting up a solar telescope outside MOSI for people to safely observe the sun, identify and learn about solar spots and meet the MAS members. This was a great ice-breaker that got people talking and set the tone for an informal, fun evening.

Planetarium show

Two of MOSI’s presenters, Shea and Jamie, wrote and performed a new planetarium show to a full house. The audience learnt about the Manchester night sky, why urban light pollution affects stargazing, examples of different constellations that can be seen and how astronomy allows a look back into the past. Supported by a contemporary soundtrack, cultural references and a specially produced video and talk that gave you “everything you need to know about our solar system in two minutes.” the show was really well received.

Celebrity Beetlejuice Quiz

Inspired by the star Betelgeuse, which was introduced in the Planetarium show, the MOSI presenters delivered a TV-style quiz show called ‘Celebrity Beetlejuice’ in the MOSI cafe. Volunteers formed two teams who competed in rounds such as ‘Play your stars right’ (where teams had to guess whether a named star was “nearer” or “closer” to Earth than the previous one), ‘Seeing Stars’ (Where contestants spun a wheel to select a challenge activity) and a quick fire question round. Conferring was positively encouraged with MAS members and the audience giving their vocal opinions! The winning team was awarded prizes of mini telescopes and books.

Virtual Stargazing

After everyone had enjoyed some refreshments MAS gave a short introduction to the Society, enthusiastically spoke about how easy it is to get involved with astronomy in Manchester and showed some examples of amazing astronomical photographs captured by their members. Then everyone was encouraged to get their smartphones out as MAS demonstrated how you can stargaze using internet applications such as Stellarium and view live telescope footage online.

Talk & Telescopes

MAS brought along some of their own telescopes which they set up outside MOSI. People had the chance to examine and look through the telescopes while informally chatting to the MAS members as the sky got darker. There was a lot of interest in the equipment and many people asked whether they could visit the Godlee Observatory in the future.

Feedback

We received some great feedback from the teenagers who attended the event. Comments included:

- "I liked that we got to see a load of cool stars and the difference between the city and the country side"
- "Nothing to improve on! I can keep the knowledge with me for my physics exam next week! Jamie and Shea were very enthusiastic and made me want to learn more. Thanks for a great evening!"
- "I enjoyed the planetarium. It was awesome. I would definitely come again."

MAS members said they were really pleased to have engaged a new audience and said they had learnt a lot from MOSI's public engagement techniques and professional experience. MOSI benefited greatly from the expert knowledge and enthusiasm brought by MAS which was an integral part of the event.

The Future

After this successful event, MOSI and MAS have formed a relationship that will hopefully lead to more collaborations in the future. Potential ideas include working together again during stargazing season (Oct-Mar) to shape and promote Sidewalk Stargazing events in the city-centre, and to cross promote each other's events.

Appendix 1: Details of the Grant Programme

Project Schedule

January 30:	Grants launched to ASDC members
February 9:	Grant Application Conference Call
February 21:	Deadline for applications (midnight)
February 24:	Notification of all 10 successful applicants by email
March 8 2012:	Training session arranged at the Royal Observatory Edinburgh
March 30 2012:	All grant claims from centres received by ASDC and payments made
March 1 - June 10:	Delivery of events and activities
June 10 2012:	Completion of all delivery of activities across the UK
June 14 2012:	Submission of final edited reports from participating centres

Project Budget

	Description	
Ten 'Stargazing Grants' of £1500 each	Ten grants of £1500 (incl VAT) to cover costs for 10 centres to support Dark Sky Activities. Administered by ASDC	£15,000
Project Direction, Management and administration	Staff costs for ASDC to promote the scheme, administer the selection process, judge applicants and award funds including financial administration. Also to provide on-going support to the ten teams as they develop and deliver activities.	£3890
Training	Staff costs for ASDC to research and write the activity sheets and put these on line, and train staff in ten centres how to use the activities.	£2300 £800
TOTAL		**£21,990**

Stargazing Grants Bidders Conference Call: 9 February 2012

Attendees:

Penny Fidler	ASDC
Michaela Livingstone	ASDC
Dan Hillier	Dark Sky Discovery
Nicola Frost	Museum of Science and Industry, Manchester
Joanne Warren	Eureka!
Tina Crimp	Techniquest
Dom McDonald	Science Oxford
Jenny Shipway	Intech
Ian Simmons	Centre for Life
Katy Nehammer	At-Bristol
Scot Owen	Techniquest Glyndŵr

Gaetan Lee	Cambridge Science Centre
Kim Barnett	Woolsthorpe Manor – National Trust
Linda Leuchars	Dundee Science Centre
Katy Dixon	Jodrell Bank Discovery Centre
Sylvie Fabre	Centre for Alternative Technology
John Ellison	Eden Project

Agenda

1. Welcome and Introduction from the CEO (PF)
2. Introduction to participants (PF and all)
3. Introduction to the grants and the project (PF)
4. Introduction to the dark sky discovery project (DH) and how to meet contacts
5. Process for applications (ML)
6. Questions and discussion

Selection process

The goal was to run a fair and open selection process to select 10 centres who:

- Would develop new and existing relationships between ASDC members and Dark Sky Discovery partners in rural and urban locations
- Overall, would include a range of expertise in this astronomy, including those who have done little in the way of stargazing before but are keen to develop in this area
- Overall, would include both outreach events and those at or near the science centres
- Overall, would include those who attract larger numbers to these events
- Would be very keen to bring their experience of working with diverse community groups to this project

The Selection panel was made up of the following:

- Dr Penny Fidler, CEO of ASDC
- Dan Hillier, representing Dark Sky Discovery and STFC
- Dr Michaela Livingstone, ASDC Project manager

Stargazing Training

ASDC, in partnership with the Dark Sky Discovery team based at the Royal Observatory Edinburgh, sought to offer flexible training and support to the ten centred awarded the grants. The project manager visited the team at the Royal Observatory Edinburgh for a development meeting to outline the training plans.

ASDC assessed the needs of those involved in planning and organising events at the ten centres and found that many had considerable experience and expertise in this area. A training day had been organised to take place at the Royal Observatory in Edinburgh on 8 March 2012, and, in discussion with the ten centres it was agreed that rather than all parties travelling to Edinburgh, a two-hour collaborative training conference call would be better use of centres staff time and resources.

The training conference call was attended by 5 science centres. The call covered event good practice, how to deliver stargazing-friendly activities, equipment, resources available, and where to find further information. Participants with prior experience of running stargazing events also actively contributed and provided advice.

Stargazing Grants Training Conference Call 8 March 2012

Michaela Livingstone	Association for Science and Discovery Centres
Dan Hillier	Dark Sky Discovery
Dave Chalton	Dark Sky Discovery
Kim Barnett	Woolsthorpe Manor
Michael Smith	Dundee Science Centre
Emma Clare	Science Oxford
Liz Edward Jones	Techniquest Glyndwr
Sinead McNicholl	Armagh Planetarium

The Agenda:

1. Introductions
2. What is up there and how do we know where it is
3. Naked eye stargazing
4. Observing equipment
5. Cloudy weather activities
6. Venues and programmes

Resources and Stargazing Event Manual

Our research showed that there were a number of excellent resources for hands-on activities for use at stargazing events. Following discussions with the Dark Sky Discovery team we decided to point grant awardees towards the many ideas and resources for Hands-on activities on the Dark Sky Discovery website, www.darkskydiscovery.org.uk, and the resources available from BBC Stargazing Live, such as audio guides to the night sky and star maps which are free to use at www.bbc.co.uk/tv/features/stargazing/activity-cards.shtml.

ASDC and Dark Sky Discovery is also producing a Stargazing Event Manual, which includes a series of excellent activities for stargazing events from a variety of sources including activities taken from the Explore Your Universe research and mapping exercise. We also wish to include in this the experiences gained from the ten awardees in delivering their events and this will be made available to all in 2012.

Appendix 2: Stargazing Grants Information and Application

Stargazing Grants

Grant application and information

Deadline for Applications 21 February 2012
www.sciencecentres.org.uk/projects/stargazing

The UK Association for Science and Discovery Centres (ASDC), in partnership with the Science and Technology Facilities Council (STFC) is offering small grants of £1,500 to science and discovery centres to facilitate stargazing events and activities across the UK.

The grants are specifically to enable ASDC members to work together with their local 'Dark Sky Discovery' teams, for example by bringing activities to their Stargazing Events, or to run events with them at your centres or via outreach.

The 'Dark Sky Discovery' Project

Launched in October 2011, Dark Sky Discovery (DSD) is a pioneering new national and regional partnership of astronomy and environmental organisations led by the Science and Technology Facilities Council (STFC). The partnership leader is Dan Hillier based at STFC's Royal Observatory Edinburgh Visitor Centre.

This recently launched network brings together national and local astronomy groups with community groups, open space organisations and schools to help people of all ages explore and enjoy the night sky. The partnership is very keen to work with Science and Discovery Centres, museums and their multitude of planetaria, and ASDC is therefore offering these stargazing grants.

Whilst a very dark sky is preferable, lots of urban areas are still great for stargazing, and it can even be done in the day time to observe the sun…

For more information about the Dark Sky Discovery project, visit www.darkskydiscovery.org.uk

Goal of these Stargazing grants

These grants are a partnership between STFC and ASDC, with the specific goal of '**Supporting the Dark Sky Discovery project across the UK by creating local and regional partnerships between the science and discovery centres and Dark Sky Discovery partners to maximise the opportunities for the UK public to engage with the stars'.**

Clearly there is a great deal of overlap with the indoors and outdoors activities already going on in science and discovery centres and their planetaria across the UK. These grants are to enable you to join up with those running outdoor astronomy events and see how you can complement one another.

In particular ASDC members could bring considerable expertise in delivering engaging astronomy-related hands-on activities and events, as well as relationships with diverse audiences to supplement the astronomical equipment and expertise that is already within the Dark Sky Discovery partnerships.

What activities can the grants be used for?

For this programme ASDC members around the UK can apply for small grants of £1,500 to pay for staff time, travel or any other costs to enable them either:

1. To partner with the Dark Sky Discovery groups to run stargazing events and activities at science centres or via outreach. Activities might, for example, include star parties, meet the astronomer, telescope workshops, sidewalk stargazing, working with girl guides and scout groups, planetaria shows and other activities bringing in research astronomers and amateur astronomers from the Dark Sky Discovery group.

2. Or, to assist with established Dark Sky Discovery events. This might for example include bringing your public engagement expertise and hands-on materials outside to support a Dark Sky Discovery event, especially important to make a success of stargazing events even if the sky turns cloudy.

In both cases we would ask you to be looking for opportunities to continue this partnership into the future.

How to find your local Dark Sky Discovery group

ASDC, in partnership with the Dark Sky Discovery project, have provided you with the contact details of the nine regional leads in England, and the lead partner in Wales, Scotland and Northern Ireland for you to get in touch. They have been briefed to expect a call and their details are at the end of this document.

ASDC will also offer a **grant application conference call at 11.30pm on February 9th** to help make your application a success – just dial in and we can advise you. Dan Hillier who is leading the Dark Sky Discovery Project will also be on the call and can tell you more about the regional teams. Book via our website.

Location! Celebrating city skies… and daytime astronomy

The benefits of seeing a clear, dark unpolluted starry sky are unquestionable, but a surprising number of inspiring astronomical experiences can be provided, even from city centre locations. At night even a small telescope reveals craters on the moon and the key features of brighter planets; the phase of Venus, Mars' polar caps, the moons and belts of Jupiter, and of course Saturn's glorious rings are easy to see, through even the most light-polluted skies.

You'll need to find a place with good sightlines, no direct lights and public access (amongst other criteria). For example, centres might choose to host stargazing activities on their roofs, in local parks or via outreach into darker urban areas. Of course, some ASDC centres are also based in rural areas and have great access to dark skies on their doorsteps.

And of course in the daytime, when our centres are at their busiest, our nearest star can be studied both by projection and using special telescopes equipped with solar filters which enable viewers to see sunspots and dynamic prominences. Please note: grants are primarily for stargazing in the dark, although they can also involve a small component of daytime observing if you wish.

Involving Research Astronomers or Space Scientists

Whilst the focus of the project is on developing relationships with the Dark Sky Discovery Project, we would be delighted if you would also like to involve a research astronomer or space scientist from your local university in a way that suits you. Phone the Press and PR departments of your chosen university and ask them who they would recommend for public engagement, or telephone ASDC for advice.

A Simple Application Process

This is a very quick turn-around project with, in most cases, a prepayment of the grant by ASDC. The application is therefore short and simple. We understand that this involves developing new relationships with the dark sky teams so we are happy that you might not have every detail finalised at the time of application. We would however need evidence that the details had been finalised by March 30 in order for us to pay you the grant. Applications are invited from all ASDC members.

The ten selected centres would:

- Give a range of ASDC members in rural and urban locations
- Support centres with a range of experience in this area, including those who have done little in the way of stargazing before but are keen to develop in this area
- Include both outreach events and those at or near the science centres
- Include some centres who attract larger numbers to these events
- Demonstrate the desire to share ideas with others doing stargazing across the UK
- Be very keen to bring their experience of working with diverse community groups to this project

Training

ASDC, in partnership with the Dark Sky Discovery team based at the Royal Observatory Edinburgh, will offer flexible training and support to the 10 centres who have been awarded the grants.

The format of this training will be decided upon in relation to the needs of the 10 participating centres. However, we would like to offer all successful grantees the opportunity to attend a free of charge 'Stargazing Academy' on March 8th 2012 at the Royal Observatory Edinburgh specifically designed for this project. At this academy we will give you a stargazing masterclass, discuss a variety of formats that work for the events and train you on a variety of activities you can use at your stargazing activities as well as sharing your collective activities with other centres. The Stargazing Academy is likely to run from lunchtime on Thursday 8 March to the early part of the dark evening to include the potential for real stargazing and to facilitate ease of travel to Edinburgh. Travel costs for

attending this day are eligible to be taken from the £1500 grant, and we will pay for your food at the training. For anyone who cannot attend the training academy, we can offer a series of informal conference calls and online resources.

Resources and Activity sheets

There are many ideas and resources for Hands-on activities on The Dark Sky Discovery website: www.Darkskydiscovery.org.uk . In addition, the BBC Stargazing Live programme broadcast on 16 - 18 January 2012 and filmed at Jodrell Bank, has a host of resources such as audio guides to the night sky and star maps which are free to use: www.bbc.co.uk/tv/features/stargazing/activity-cards.shtml

BBC Stargazing Live also publicised the Dark Sky Discovery partnership and resulted in over a million hits to The Dark Sky Discovery website.

ASDC, in collaboration with Dark Sky Discovery, will also provide training for centres to run a variety of low-cost hands-on activities that work well at stargazing events.

Reporting

All ten participating centres will be asked to submit a 1-2 page report with a couple of photos telling us about their event, for example who attended, what they did, how many people took part and how they might work with Dark Sky Discovery into the future. ASDC would then put this onto our website and share it with STFC (note: this final report must be proofed and web-ready and all images must be cleared for use on our website).

Grant Payment

The £1,500 grant will be paid to your centre on receipt of a claim form dated 30 March 2012. Please note that we have discussed this project with HMRC and consider this project and these grants outside the scope of VAT. If you need to charge VAT it must form part of the £1,500 and cannot be additional to the £1,500.

We are happy that this claim might be before you have delivered your event. No grants can be claimed after March 30 2012.

The grant agreement with ASDC will comprise of this grant information document in combination with the grant application forms you submit specifying the detail of what you will deliver.

Timescales and deadlines

Activities would need to take place between March 1 and Sunday June 10 2012. This timeframe includes the Easter Holidays, National Science and Engineering Week, the May bank holidays, the Queens Diamond Jubilee (June 5th) and the transit of Venus on June 5-6th 2012.

The deadline for applications is midnight on Tuesday February 21 2012.

The deadline for completing activities is midnight on June 10 2012.

Stargazing Project schedule

January 30:	Grants launched to ASDC members
February 9:	11.30 am: Grant Application Conference Call. ASDC will outline the project and what the grants are for, and you can ask any questions. Dan Hillier who runs the Dark Sky Discovery Project will be on the line to answer any questions and suggest ideas about that side of the project. Details on our website.
February 21:	**Deadline for applications (midnight)**
February 24:	Notification of all 10 successful applicants by email
March 8 2012:	Training session at the Royal Observatory Edinburgh – all invited
March 30 2012:	All grant claims from centres received for payment by ASDC
March 1 - June 10:	Delivery of your events and activities
June 10 2012:	Completion of all delivery of grant-related activities across the UK
June 14 2012:	Submission of final edited reports from participating centres

Relevant 2012 dates:

March 9 – 18:	National Science and Engineering week
March 25th:	Clocks change to BST
April 2nd:	Easter Holidays begin (Easter day 8th April)
June 5th - 6th	Transit of Venus (visible at sunrise, 4-5am)
June 5th	Queens Diamond Jubilee (Bank Holiday)

The Application Form

Anyone considering applying is invited to take part in a collaborative telephone meeting on 9 February to ask questions and explore ideas. This is to make it easier for you to make a successful application and is not compulsory.

Your Name: ……

Organisation: ……

Phone number(s): ……

Email: ……

Please tell us:

The name of your Dark Sky Discovery partner, and their region:

Approximate date of event(s):

Who is your audience? eg: public, families, schools:

Please describe the event or activities in a few paragraphs:

What is the nature of the activities and expertise you would bring?

What is the nature of the activities and expertise the Dark Sky Discovery partners would bring?

How many people do you expect to engage (and specify any social networking that would happen during and afterwards)?

We would be delighted if you also involved a research astronomer or space scientist from a local University. If you will, please tell us where are they from and their name if you have it.

Your Overview budget

Description	Amount	Notes
Staff time @ £225 /day How many days and for what?	£0.00	Staff time can include developing the relationship with Dark Sky Discovery group, event planning, training, delivery, marketing, learning or any other (please specify)
Other costs	£0.00	For example: bursaries, consumables, travel, flyers, or a one off purchase.
Travel costs to Edinburgh for the Stargazing Academy	£100	For example
TOTAL	£0.00	This cannot exceed £1,500 (including VAT)

Approximate in kind contribution by your centre £……..

For any questions, please do call us at the ASDC office on T: 0117 915 0184
For further details: www.sciencecentres.org.uk/projects/stargazing

Please send applications by 21 February to Dr Michaela Livingstone at info@sciencecentres.org.uk
Mark the email as 'Stargazing grant'

Or send applications by post to arrive by 21 February **The Association for Science and Discovery Centres, The Watershed, 1 Canon's Road, Harbourside, Bristol, BS1 3TX.**

Dark Sky Discovery contacts

Country/region	Contact
Scotland	Dave Chalton Royal Observatory Edinburgh Visitor Centre 0131 668 8434 Dave.chalton@stfc.ac.uk
Wales	Allan Trow Dark Sky Wales allan.darkskywales@gmail.com
Northern Ireland	Robert Hill NI Space Office http://www.armaghplanet.com/html/niso.html
NE England	Pete Edwards 0191 3343782 physics.outreach@durham.ac.uk
NW England	Alan Brown STFC Daresbury Laboratory 01925 603488 alan.brown@stfc.ac.uk
Yorkshire and Humberside	Martyn Chesters or Helen Barraclough Space Connections 0845 652 2406 info@spaceconnections.net
West Midlands	Tony Fox Cannon Hill Park cannonhillfriend@aol.com
East Midlands	To be confirmed, please contact: Dan Hillier Royal Observatory Edinburgh Visitor Centre 0131 668 8406 Dan.hillier@stfc.ac.uk
SW England	Emma Dennis Exmoor National Park 01398 323665 EDennis@exmoor-nationalpark.gov.uk
East of England	Hugh Jones Hertfordshire University 01707 284426 Email h.r.a.jones@herts.ac.uk
South of England	Jo Lewis STFC Rutherford Appleton Laboratory 01235 445950 jo.lewis@stfc.ac.uk
London	To be confirmed, please contact: Dan Hillier Royal Observatory Edinburgh Visitor Centre 0131 668 8406 Dan.hillier@stfc.ac.uk