



Explore your Universe

From atoms to astrophysics

Project Announcement and Invitation to Participate

Deadline for Applications 9 September 2012

www.sciencecentres.org.uk/projects/Explore

The UK Association for Science and Discovery Centres (ASDC), in partnership with the Science and Technology Facilities Council (STFC) is delighted to launch 'Explore your Universe' an exciting new national project celebrating the physical sciences.

The project aims to provide high-end equipment, national staff training academies, flexible workshop resources, scientist training and other support to enable 10 UK science and discovery centres and museums to involve their visitors in cutting-edge programmes around the physical sciences. We hope that centres will then use their expertise to evolve these programmes as they choose in the future to suit the needs of their audiences. ASDC will also give each of the ten partners a £5000 grant to contribute to staff time, marketing, scientist involvement or other costs as in a manner of their choosing.

The vision of the project is to inspire a new sense of excitement amongst young people around the physical sciences by sharing the amazing stories and technologies of STFC. The target audience for the project is families with children aged 8-13 and school students aged 10-16, audiences we know that UK science and discovery centres and museums have in abundance.

The project is being delivered in partnership with the National Space Centre and Jodrell Bank Discovery Centre, assisted by a panel of science and engagement experts.

The 10 ASDC member organisations will be selected through a competitive application process, the details of which are within this document. All applicants will need to fill out the application form and submit by email by **9 September 2012**.

The Project Equipment

The project will provide the ten selected organisations with all the equipment they need to run all the activities and workshops. This will include:

- A thermal imaging camera
- A solar telescope
- A Van de Graaf Generator
- A particle accelerator in a salad bowl
- An iPad pre-loaded with exceptional apps for space and the physical sciences
- A levitating magnet experiment (including superconductor, magnet and liquid nitrogen Dewar*)
- A specialised optics box
- A specialised materials and magnets box
- And more ...

* For organisations who don't currently have a storage device for Liquid Nitrogen

The project provides flexible workshops, family show and other activities

We understand that all ASDC members are different; they have different strengths and existing partnerships. We also know that every centre will want to run slightly different activities and events, and will want full freedom over how they choose to run these with their visitors. We fully endorse this approach and indeed the project has been designed to maximise this flexibility. We want the ten selected centres to have the freedom to evolve these workshops if they wish to take advantage of their expertise and existing relationships with universities and others to enhance the way their audiences engage with the physical sciences.

Each of the workshops and activities will be centred on a set of high-tech equipment provided as part of the project and as listed above.

The 10 selected centres will be offered the following:

1. An exceptional set of adaptable hands-on equipment
2. Full and detailed training on how to use all the equipment, the types of hands-on experiments each piece can be used for, and all the related science.
3. Places for two staff at the two-day residential training academy. Their travel, food and accommodation will all be paid for by ASDC
4. A master class for 14-16 year olds
5. A schools workshop for 10-13 year olds
6. A family show for 8-13 year olds and their parents
7. A 'meet the expert' format, including personal introductions to some top experts
8. A set of resources to use with groups of brownies and guides, cubs and scouts
9. Details and introductions to scientists involved in the project's national training programme and other scientists and engineers related to STFC science
10. A full marketing pack, including logos and branding material, photos of the workshops for schools leaflets and curriculum links for teachers
11. Forms for the project evaluation
12. A bespoke 'Explore Your Universe' Website, including social networking opportunities in 2013
13. Two staff places at the National Meeting in mid-2013 to share knowledge and expertise with the other UK centres that are running similar activities
14. A £5000 Grant to assist with running these activities

Intellectual Property

ASDC strives to ensure open access to all our project resources so that the field can share and benefit as a whole. All the project's resources will therefore be licensed under creative commons (attribution). To help science centres and scientists to continue to innovate together, and to find ever more brilliant ways to engage school students and the public with the physical sciences, we ask that all participating centres follow this spirit of collaboration and share any new activities that evolve from the project under creative commons.

Details of the Programme

The schools workshops

The project is developing a schools workshop for 10-13 year olds (KS2/3 where this applies) and a masterclass for 14-16 year olds (KS4 where this applies). Both workshops will be fully curriculum-linked for the nations involved in the project and will involve all the equipment listed above. The workshops will be flexible and modular so you can either run the full workshops as provided, or if you wish you can simply pick and choose the experiments and elements you prefer to make the workshops shorter or longer as you need. The schools workshops are currently being developed by a team led by the National Space Centre (and National Space Academy), and will be piloted with students and teachers.

Charging for the schools workshops

Organisations are welcome to charge schools and others for the workshops, indeed we encourage this to ensure they can become embedded as part of your programmes and are sustainable for each organisation. Guidance will be provided as part of the project, but ultimately the amount you charge and what you charge for will be up to each selected organisation.

The Family Show

This show will be lively and entertaining, and suitable for family and public visitors at weekends, holidays, festivals and special events. It will use the most amazing and visual of the equipment and will be flexible and modular. Every centre will be free to run the full show as is, or pick and choose the experiments and elements as you wish to fit with your timings and audiences. The show will be developed by a team led by the Jodrell Bank Discovery Centre with input from the National Space Centre and ASDC.

The Activities for Brownies, Guides, Cubs and Scouts

We know that many UK science and discovery centres and museums run special events and activities, including 'badge days' with brownies, guides, cubs and scouts. Working with these groups and the ten selected centres we will create a bespoke set of activities that attract these groups and help them with their badges.

The Science Centre Training Academy

This will be held on 14 – 15 November at the National Space Centre in Leicester and is for the public engagement professionals who will be managing and delivering the programme in each centre. You will need to send two staff and ASDC will pay for their travel, food and accommodation. They will be trained on the equipment, the workshops and shows, the science, the evaluation programme and the marketing.

The Researchers and Scientists Training Academies

The project will also run two Training Academies for 50 researchers and scientists working in the area of STFC science. The training will link these experts to the project, explore ways they can use the variety equipment to talk about their work, train them on how science centres work, share with them some methods of public engagement and introduce them to the ten centres who are participating in the project.

The two scientist training academies will be on:

- November 29 2012 at At-Bristol Science Centre
- January 30 2013 at Jodrell bank Discovery Centre

Commitments of the 10 selected organisations

The 10 selected organisations will need to commit to the following:

1. To embed the workshops and public activities into your schools and public programme and run them into the future.
2. To engage the prescribed number of participants by running the target number of workshops between January 11 2013 and November 15 2013, as outlined below.
3. To have a quality control system in place that maintains the integrity of the science into the future.
4. To ensure two members of staff participate fully in the training academy*
5. To market the workshops in accordance to guidelines given by ASDC and the project team
6. To ensure two members of staff participate in the National Meeting to share best practice in 2013

*Organisations wishing to apply should refer to the training and delivery schedule later in this document to ensure that their chosen members of staff on this project are available to attend the academies and keep to other deadlines.

Numbers of participants you will need to engage

The ten selected ASDC members will need to commit to engaging the following numbers of people via the specified mechanisms between January 11 2013 and November 15 2013. Please note, that it is the overall numbers of people that are your target, and we give the numbers of workshops and shows as a guide. We appreciate that schools groups vary in size and that every centre delivers family shows to vastly different sized audiences at weekends and holidays. Each centre should tell us how they will play to their strengths and deliver in a way that suits them.

Target 1: Schools workshops: 900 students

We recommend this would be as follows:

- 12 masterclasses for 14-16 year olds with 25 students in each (=300 students)
- 20 schools workshops for 10-13 year olds with 30 students in each class (=600 students)

Target 2: Family Shows: 2000 children and adults

- Have a space-themed or physics-themed special season, running the show for families at weekends for 3 months (35 people per show, 3 times each day on Saturday and Sunday, x 13 weeks = 2730 people)
- Run the family show over the Easter holidays (16 days) and a half term (9 days) = 25 days. (35 people per show, 3 times each day x 25 days = 2625 people)
- Run the show with 70 people once a day for 4 weeks of the summer holiday (=1680 people) and then take the show to a science festival and run variations of it 7 times with 50 people (=350 people) totalling 2030 people

Target 3: Meet the expert events:

10 days of events reaching an audience of approximately 5000 people*

You are free to mix and match the audience and location for these meet the expert events. For example, your activities could be families during weekends and holidays meeting the experts on the busy exhibition floor, or perhaps events within your local science festival or city hall. You might also want to include these meet the expert activities as part of a big schools event or competition, or to celebrate World Space Week in October, or as part of a special evening event for adults such as a research-themed evening, stargazing night or even alongside a lecture or cafe scientifique. One option is outlined below:

- As part of an 'Explore your Universe' special season, you could invite scientists from your local university, or ask researchers and engineers from the project to meet your visitors using the project's amazing equipment as a talking point. If two scientists are talking to visitors on a busy floor from 10am -4pm, and each talks to a family of 4 for ten minutes, whilst another 4 people

look on and listens, they will engage 96 people per hour. Across 6 hours they will have interacted with 576 people. Running 10 days of events over the holidays will reach 5760 people.

*Please note, we appreciate that 5000 is a large number of people. If you prefer to engage fewer people more 'deeply' with the researchers please tell us what you plan, and details of your target audience.

Target 4: Brownies and Guides, Cubs and Scouts

We would like a commitment from all the partners to explore ways to engage more Brownies and Guides, Cubs and Scouts through the project in a way that works for each centre. Ideally you will use the new equipment and activities with your existing groups of Brownies and Guides, Cubs and Scouts to inspire them with the latest science whilst cultivating new relationships. In addition we hope many centres will consider running sleepovers and activity badges with these groups as part of the project. ASDC would like to discuss the options with the ten centres once they are selected and will look to promote the activities nationally with Brownies, Guides, Cubs and Scouts to drive visits to their centres. In time we would like 1000 Brownies, Guides, Cubs and Scouts to be linked to the stories and science of STFC via each partner centres via the web resources and directly through activities.

The Selection Process

The 10 participating organisations will be selected through a competitive tender process.

Organisations wishing to apply should fill in the application form, which can be found on the ASDC website (www.sciencecentres.org.uk/projects/explore/application.html).

The deadline for applications is midnight on 9 September 2012.

The selection panel

The 10 participating organisations will be selected by a selection panel, made up of the following:

- Dr Nick Winterbotham, Chairman of the STFC Project Management Board
- Dr Penny Fidler, ASDC CEO and Project Director
- Dr Michaela Livingstone ASDC Project Manager
- A senior member of STFC staff, from the STFC science and society group
- Dr Teresa Anderson, CEO of Jodrell Bank Discovery Centre and Chair of the Programme's science and engagement panel
- Dr Helen Featherstone, Project Manager (Public Engagement), University of Exeter

Criteria for selection of the 10 partner organisations

Your organisation is a 2012 member of ASDC.	Essential Requirement
You have experience of, or strong willingness to learn, about the latest in the physical sciences, including space science, particle physics and other areas of STFC science.	Essential Requirement
You have the ability and desire to embed the new workshops into your existing schools programme, and to continue to run these workshops into the future.	Essential Requirement
You have the ability and desire to embed the new workshops into your existing public programme, and to continue to run these workshops into the future.	Essential Requirement
You have strong links to local schools and teachers, and currently run curriculum-linked workshops.	Essential Requirement
Your organisation already runs science shows for the public and for families.	Essential Requirement
Your organisation has links with members of your local university, and you are looking to develop links with scientists.	Essential Requirement
You have the ability to deliver to at least 900 school students and 2000 visitors in family groups between January 2013 and November 15 th 2013.	Essential Requirement
You have a marketing professional in place to promote the schools and public workshops as you feel are appropriate.	Essential Requirement
You have the desire to build new relationships with scientists and engineers linked to STFC science, including those at the UK particle accelerator facilities and CERN, UK space science based here and abroad for example at the major telescopes and research facilities worldwide.	Essential Requirement
You have the desire to use social media to connect with schools, partners and scientists on the project.	Essential Requirement
You have the ability to reach very large audiences, either in terms of school visitor numbers, or family groups and public audiences.	Desirable
You have experience of running 'meet the expert' sessions and facilitating discussion between the public and research scientists.	Desirable
You are willing to participate in learning and collaboration via the web, for example webinars, live link-ups, submitting videos, and blogging.	Desirable

Geographical considerations

The goal of this project is to give students and families across the UK the opportunity to explore the physical sciences through high-quality, engaging hands-on experiences.

When making the selection of the ten centres, in the case of all other items being equal, the geographical spread of the ten partners across the UK will be taken into consideration. The goal would then be to have a national spread in terms of population density and geography. To make these workshops sustainable we aim to avoid organisations competing for the same audiences and in the event of a 'tie-break' geography will become relevant to our selection.

Please note that we are also particularly interested in applications from organisations close to STFC centres of excellence. Please do refer to how you would want to work with these centres in your application.

Information for researchers and freelancers

If you are currently working as a researcher in this area and would like to get involved, please contact us with a view to being selected for the training academy for researchers. If you are a free-lancer with a background in physics, feel free to speak to your local ASDC member to see if you might be part of their application.

Training and Delivery Schedule

Bidders' conference call	16 August 2012
Deadline for Applications	9 September 2012 (midnight)
Notification of success	20 September 2012
Science Centres Training Academy	14-15 November at the National Space Centre in Leicester
Delivery of marketing pack	30 December 2012
Delivery of complete equipment	9 January 2013
National Meeting	Summer 2013
Deadline for delivery of all workshops by new organisations	15 November 2013
Final report from centres	20 November 2013
Final submission of evaluation	20 November 2013
Project ends and ASDC report back to STFC on outcomes	9 Jan 2014

How to apply

To apply, please fill in the application form that is available on the ASDC website. We would be grateful if you would re-save your application form in the following format: 'Explore your Universe application – name of your centre'.

We will not be accepting applications through post or fax.

Deadline for Applications: midnight 9 September 2012.

Please email your application to:

Dr Michaela Livingstone, the ASDC Project Manager at michaela.livingstone@sciencecentres.org.uk

Please cc your application to info@sciencecentres.org.uk

If you are unsure whether to apply, or would like to ask a question please feel free to phone:

Dr Michaela Livingstone

T: 0117 915 0184

The Bidders conference call

ASDC will host a conference call at 2pm on 16 August 2012 to answer any questions from all potential bidders in an open manner. Please see further details on the ASDC website, and book through Eventbrite.

www.sciencecentres.org.uk/projects/explore/bidderscall.html