UK Association for Science and Discovery Centres

UK SPACE AGENCY

Destination Space Phase 2

Information and Invitation to Participate

A National Science Engagment Programme for Families, Schools and Communities

Deadline for Applications: **Friday 26th January 2018**

Overview

The UK Association for Science and Discovery Centres is partnering with the UK Space Agency to create and deliver a national science engagement programme which builds upon the success of Destination Space. Destination Space 2 will celebrate the science and engineering of the James Webb Space Telescope (JWST), the ExoMars mission, satellite applications, and the exciting new developments in the UK's small satellite launch programme.

The programme vision is to engage, inspire and involve families with school-age children, school groups and communities across the UK with the amazing stories, science, engineering achievements and innovative ideas of the UK's world-leading space science and engineering research, highlighting the relevance to their daily lives and to society's future.

We are seeking 5 Science and Discovery Centres and Museums across the UK to partner with us for this exciting continuation of one of the UK's biggest and most successful National STEM engagement programmes – Destination Space 2. Overall 733,017 children and adults across England, Ireland, Scotland and Wales participated in Destination Space, taking part in school workshops, family shows or at events to celebrate Tim Peake's launch into space and his return.

We are asking science centres to bring their exceptional talents in engaging families with science in fun and engaging ways as well as their relationships with press, PR and other partners to celebrate space science in the following areas:

1. the James Webb Space Telescope (JWST)
2. the ExoMars Rover
3. satellite launch capability in the UK
4. space technology and satellite applications.

The 5 selected centres will have previously taken part in Phase 1 of Destination Space, which celebrated British ESA astronaut Tim Peake's 6 month mission onboard the International Space Station. The 5 selected centres will be given a host of resources that will allow them to continue delivering the successful Destination Space programme, bringing in the latest space engineering and space science surrounding the exciting JWST and ExoMars missions, along with spaceports and satellite applications and their benefits to humanity. There will be additions to the bespoke family show, staff training on the missions and the UK's contributions to the space sector, a host of resources available on the Destination Space website and a series of hands on activities for 'meet the expert' sessions.

Applications are open to all 20 science centres and museums that participated in Destination Space Phase 1 who are also current ASDC members. The deadline for applications is 11pm on Friday 26th January 2018.

Completed applications should be sent to Dr Jaclyn Bell, the Space and Physics Project Manager, jaclyn.bell@sciencecentres.org.uk and cc'd to info@sciencecentres.org.uk

Potential for Level 2 of the Destination Space Phase 2

We hope to announce additional funding later in 2018 to extend the number or partners.

Information on Destination Space Phase 2

Introduction

There are so many exciting developments within the UK space sector that are currently underway, or due to take place over the next few years. The launch of the James Webb Space Telescope in Spring 2019 is an exciting time for the UK, with one of the instruments onboard the JWST being developed and led by UK scientists and engineers. The Mars rover due to launch in 2020 is the first European rover to go to Mars, again with strong contributions from here in the UK. Both missions, along with the UK's investment in developing small satellite launch sites across England, Northern Ireland, Scotland and Wales present us with a unique and powerful opportunity to engage the entire nation with the amazing science and engineering that goes into each of these missions. It gives us the opportunity to engage families, parents, schoolchildren, teachers and the wider society across the UK with inspirational science in a high-profile national manner.

The programme vision and mission

The Vision: To engage, inspire and involve families with school-age children, school groups and communities across the UK with the amazing stories, science, engineering achievements and innovative ideas of the UK's world-leading space science and engineering research, highlighting the relevance to their daily lives and to society's future.

The Mission: To create hands-on activities and resources to bring alive the James Webb Space Telescope, ExoMars and LaunchUK (the campaign to enable small satellite rocket launches and sub-orbital flights from UK spaceports), and to work with UK Science Centres and a host of stakeholders to deliver activities. In addition, to develop the relationships required and to develop the content to deliver a wider inspirational national hands-on science and engineering programme celebrating UK space science, engineering and space exploration, that can be delivered in the future through the successful infrastructure of the UK's science and discovery centres and science museums.

Leveraging the ASDC national network

The UK Association for Science and Discovery Centres (ASDC) is a national organisation that brings together the UK's major science engagement organisations to play a strategic role in the nation's engagement with science. Within our network are over 60 of the nation's largest publicly accessible science centres, discovery centres, science museums and scientific bodies. Together, our vision is for a society where people of all backgrounds and in all parts of the UK are inspired and fully involved with the sciences.

Every year in the UK, 20 million people of all ages and backgrounds choose to engage with science at one of the UK's science and discovery centres or science museums. This equates to 385,000 people every week who come to our member centres to explore and discuss science in an involving and personal way. Over half (ten million) are girls and women. Over half, are school-age children.

This programme leverages this national infrastructure, expertise and investment. Science and discovery centres and science museums are already embedded in the heart of their communities in England, Ireland, Scotland and Wales. They all have long-term relationships with communities, schools and families as well as local institutions such as universities, industry, local government and the media.

ASDC will select 5 science centres to partner with to deliver this programme and will make the resources and content available widely, and on social media. This will offer families and the wider public across the UK unusual and exciting opportunities to discover, discuss, question and explore the latest UK space programmes and to find out about the women and men who are making these important innovation in space engineering and advances in human knowledge.

This national strategic programme will open up opportunities for people across the UK to engage with the science, explore the latest research and engineering, and discuss what it means for them and for science and collaboration internationally.

Outputs of Destination Space Phase 2 (Level 1)

This project will deliver the following:

1. A suite of highly adaptable activities for use by science centres and museums across the UK that they can add to their family shows, events and schools workshops to promote the JWST, ExoMars and other areas of key content.

2. A small and exceptional set of hands-on equipment and resources for each of the 5 selected science centre to use with families, schools and the wider public to explore the latest UK and ESA space science and research, focussing on the key content areas.

3. Specific curriculum-linked activities for KS2 and KS3 focussing on the key content areas, to be added into space workshops with an accompanying PowerPoint.

4. Additional content and new activities added to the existing Destination Space show with suggestions for how to run the activities within a family show format, focussing on the key content areas.

5. A training academy for 10 science centre staff from the 5 selected science centres and museums across the UK to enable them to run the programme, and to help them adapt it towards the launch of the JWST and ExoMars missions.

6. A ‘meet the expert’ session format and guidance for JWST, ExoMars and space event days and activities for families, with introductions to guest space scientists and engineers.

7. A one-day Charrette, bringing together professionals from across the UK with the very best experience in hands-on activities to engage families with space science, with academics and researchers in this area.

8. Creating a Science and Engagement Advisory group who are happy to advise ASDC and science centres on the latest space science and engineering should a wider programme be available.

9. Adaptations to the bespoke ASDC Destination Space Website www.destinationspace.uk to highlight all the resources that science centres will need to run activities with JWST, ExoMars and more, and a place where all public participants who have visited science centres can find out more.

10. The creation of a new online and digital strategy, including social media, to offer opportunities to help all science centres reach their thousands of followers via Facebook, twitter and other channels.

11. Easy access for science centres to video footage and images for JWST and ExoMars to facilitate the latest imagery being used in multiple formats.

12. Specific guidance on using the UK and ESA Space-related science as an opportunity to inspire girls with the physical sciences (including areas of maths and engineering) and to help all families explore STEM careers with their children.

13. A 'Press and Marketing Pack', with images, video, logos, sample press releases and approved copy for web, as well as social media delivered in a flexible manner for centres to celebrate the latest space achievements and research.

14. A Destination Space 2 research and development report, summarising all the ideas, hands on activities, experiments that had been uncovered through this 6 month research and development phase focussing on the JWST and other key content areas. This will be a working document that can be shared widely although will not be for full publication.

15. A set of hands on activities, demos and challenges in the format of handbook pages, focussing on the JWST and ExoMars that will be made into a new soft bound handbook using the graphic design of Destination Space.

16. A small research programme (led by the ASDC Project Manager) to collect data on and assess:

    - how many children and adults have participated in Destination space since ASDC asked them to report at the end of the funded programme, in March 2017

    - The variety of ways the programme has impacted centres and families nationally. This will be through interviews with the centres by members of the ASDC team who were not involved in Destination Space Phase 1.

The programme goals

In addition to the outputs (deliverables) listed above, the 7 key goals for this six-month national programme, in order of importance, are as follows.

1. To inspire and intrigue children and their families and teachers with a pioneering sense of curiosity, questioning and adventure in relation to space, our planet and international space exploration.

2. To inspire science engagement professionals across the UK to help the children, families and teachers they engage to explore, test, experiment and discuss the brilliant creativity, innovation and entrepreneurship needed for space science and engineering programmes and exploration - with a specific focus on the James Webb Space Telescope, ExoMars, the satellite launch programme, space ports and new technology applications.

3. To inspire both schoolgirls and schoolboys to consider careers in the space sector and in science and engineering more widely and to see the people involved in the latest space missions. All the evidence points to young girls especially feeling 'it's not for me' and we would like to counter this.

4. To build family science capital in the 5 delivery centres and more widely, and to encourage young people and families from all sectors of society to grow their interest in space science and to consider careers in this area.

5. To bring alive the areas of the space sector that have the greatest impact on all of us, showcasing 'what happens if we switch space off'.

6. To train science engagement professionals embedded in ASDC member organisations across the UK to inspire families with the latest launches and recent developments in space science and engineering, focussing especially on the James Webb Space Telescope, the ExoMars mission, the satellite launch programme, satellite applications and new technology providing a national educational legacy for this programme.

7. To increase the public engagement opportunities of space scientists and engineers (in a gender balanced way) and enable the public to meet them in informal settings.

The core project team

This national programme will be directed and project managed by The UK Association for Science and Discovery Centres. The project manager will create additions to the family show, a full training handbook, resources and activities with additional help from ASDC's development partners.

3. The key audiences

The key audiences for this national programme are:

1. Young people aged 5-14 to explore space, the James Webb Space Telescope, ExoMars, the latest satellite launches and applications and the engineering feats and spin offs from human space flight . There will be a special focus on children aged 7 - 10, an age group that the ASPIRES academic report has showed is vital to engage for longer term interest and engagement.

2. Parents and families of these young people so they are equally inspired by what the UK and our European and International partners can achieve together and can continue to inspire and encourage their children's science learning and career aspirations long into the future, seeking out other related activities.

3. Teachers, to inspire them to engage their school groups (aged 5-14) with the latest space science and to involve their students on an on-going basis, and to bring their classes to science centres to discover more in space programmes and science programmes.

4. Researchers and scientists to make it easy for them, to improve confidence and give them motivation to share their excellent work with the public by offering great activities and methods to engage the public.

5. Other stakeholders such as teachers, and other space networks and organisations so they can better understand the range of world-leading space science and engineering expertise that the UK and ESA have, and explore easy ways to engage the public.

6. Science centre and museum professionals in selected centres who will ensure JWST, ExoMars and other space content is included across their shows and activities, and develop relationships with space scientists and engineers so innovative content is delivered into the future.

What is on offer for the 5 participating science centres and museums?

The programme will offer the 5 selected centres the following:

1. An attention-grabbing set of activities and equipment worth up to £2000 to enable delivery of the hands-on activities, meet the expert events and show add-ons.

2. A £2,000 grant to assist delivery at each centre, which may be spent on staff time and other costs.

3. A meet-the-expert session format for family audiences with introductions to guest space scientists.

4. A national training academy to train two members of staff from each of the 5 science centres and museums across the UK to enable them to run the entire programme.

5. Training resources, including a programme handbook, to support delivery and training of further staff back at each centre.

6. Usage of the national project logo (Destination Space) and direct access to images and videos on the Destination Space website.

Commitments of the 5 selected organisations

The 5 selected organisations will need to commit to the following:

1. To reach over 2,000 members of the public, including schools and families, with this programme in a high quality, engaging manner by Thursday 28th February 2019.

2. To continue to run the Destination Space family show at your centre and/or at outreach events around key content areas.

3. To maximise any press, PR and social media opportunities at your disposal to raise public awareness and maximise the number of people who can engage with the knowledge that the UK has played a huge part in the JWST and ExoMars missions. To use these platforms to inform and celebrate the UK's achievements and plans to launch small satellites from multiple space ports across the UK.

4. To ensure that the activities are delivered according to project guidelines, in particular with emphasis on gender equality, increasing STEM careers awareness and the goals and key audiences as outlined above.

5. To have a quality control system in place that maintains the integrity of the science you deliver into the future.

6. To ensure two members of staff participate fully in the training academy in March 2018 (exact dates and location TBC).

7. To share information with the project manager for the purposes of reporting and evaluation in a timely manner.

8. To market the family shows in accordance with the guidelines using the project brand, UK Space Agency logo and any applicable mission logos as required.

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 training academy and deliver to other deadlines. The two day residential training academy will provide you with everything you need to make the project run successfully at your organisation, plus it gives you the opportunity to network with your peers across the country. The training academy should be attended by one public engagement professional who will lead the management and delivery of the programme within your centre. The other attendee should be another senior member of staff, a presenter, or marketing professional. Staff members who attend this training academy will then be able to train further staff within their institutions.

Delivery time scales

Delivery begins 31st March 2018 and must be completed by Thursday 28th February 2019.

2018	
March 2018 (TBC)	Training Academy for two members of staff from each science centre*
Saturday 31st March 2018	Delivery period begins
Friday 21st September 2018	Interim report submitted to the ASDC project manager
2019	
Thursday 28th February 2019	Completion of the programme. Final report due
May – June 2019	Launch of JWST

*Date and venue still to be confirmed. Anticipated dates are Tuesday 20th and Wednesday 21st March 2018. Accommodation will be provided.

Notes about delivery and dates

- Science Centres will be trained and have all the resources to begin delivery from March 31st 2018. We understand that this date comes rather soon after the training academy, however centres will have already begun planning events and training by this date, ready to begin delivery at Easter, May or in the Summer.
- Delivery, to a minimum of 2,000 participants per centre, must be completed by 28th February 2019.

Numbers of participants you commit to engage

Selected partners will need to reach a minimum of 2,000 people per centre, where greater numbers will be looked on favourably. Overall the programme will engage 10,000 people across the UK during the delivery window (31st March 2018 – 28th February 2019).

How you might reach your numbers,

- **Regular family shows**
- **'Meet the expert' events** - you could invite space scientists and engineers from your local university 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 4 days of events will reach 2,304 people.
- **Festivals and events -** inviting experts to join you at festivals and other public events will reach even higher numbers (please note we expect numbers from festivals, etc, to be a best estimate of actual people engaged with, and not the total entry numbers to these large events).
- **Community partnerships**

Reporting data

In return for the training and support that this project offers we ask that you provide ASDC with some information as part of the reporting process.

We will collect data both during the interim report period and at the end of the project on the following:

- Numbers of people attending the family events / shows.
- Numbers of people interacting with a scientist or engineer (meet the expert session).
- The types of activities you are delivering and details on the audiences you are engaging.
- Male / female split of schools workshops / family shows / careers or meet the expert events.
- Postcode data of schools, to analyse regional dispersion.

We will also be collecting evaluation data based on simple quantitative surveys that will be provided to you. (Further details regarding the evaluation will be covered at the training academy in March 2018).

Final reports will be required at the end of the project (28th February 2019). Additionally, on Friday 21st September 2018 the project manager will contact you for an interim report and interim metrics.

The Grant

The grant may be used to contribute to staff time, marketing, scientist involvement or other costs at your organisation's discretion. **The Grant Payment must be claimed on 31st March 2018 for the sum of £2000**. By 31st March 2018 centres will have been trained and will be in their planning phase, under contract to deliver for the coming year.

In your application please specify how you will use the grant, as well as detailing your organisation's in-kind contributions.

The selection process

The 5 participating organisations will be selected through a competitive tender process. Science centres assisting with development will still need to apply if they wish to deliver this programme, there will be no automatic selection of these centres assisting with the project development.

Organisations wishing to apply must fill in the application form which can be found on our websites.

The deadline for applications is 11pm on Friday 26th January 2018.

The selection panel

The 5 successful participating organisations will be selected by a selection panel, made up of the following people:

- Project Director, Dr Penny Fidler
- Project Manager, Dr Jaclyn Bell
- UKSA Head of Education and Skills, Jeremy Curtis
- UKSA Astronaut Flight Education Programme Manager, Susan Buckle
- An additional representative from another research council or organisation.

Eligibility

This grant is open to the following science centres and museums who ran Destination Space Phase 1, providing they are members of ASDC for the application and duration of the programme,

1. Aberdeen Science Centre
2. At-Bristol Science Centre
3. Cambridge Science Centre
4. Centre for Life
5. Dundee Science Centre
6. Dynamic Earth
7. Eden Project
8. Eureka! The National Children's Museum
9. Glasgow Science Centre
10. Jodrell Bank Discovery Centre
11. The National Space Centre
12. Royal Observatory Greenwich
13. Science Museum
14. Techniquest
15. Techniquest Glyndwr
16. The Observatory Science Centre
17. Thinktank, Birmingham Science Museums
18. W5 Interactive Discovery Centre
19. Winchester Science Centre and Planetarium
20. World Museum, Liverpool Museums.

We also encourage applications from ASDC member organisations who are not currently running one of our national STEM education programmes during 2018. If you have any questions about your membership please telephone the project manager.

Selection criteria

Priority will be given to organisations that:

- Demonstrate a strong passion for space science, space technology and related topics.
- Demonstrate a strong track record in delivering high quality science engagement activities to families, not only during delivery of Destination Space Phase 1, but during any ASDC programmes your centre has run previously.
- Are creative, clever and involve great ideas for activities and large events to ensure as many people as possible take part in workshops and activities surrounding the JWST, ExoMars, satellite applications and LaunchUK, including the family show (or elements thereof).
- Have the ability and desire to reach a wide range of audiences, especially girls and under-represented groups as part of their normal operations.

- Have the ability to reach large audiences and employ innovative engagement approaches.
- Demonstrate how you will embed the space science activities into your public programme, and continue to run these workshops into the future.
- Can show links with members of your local university and industry, or can demonstrate a willingness to develop links with scientists and engineers.
- Collect data on the number of participants involved in its activities and routinely collect evaluation data to assure quality.
- Demonstrate a willingness to share evaluation and learning from activities within the ASDC network.
- Have the desire to use social media as an integral part of the programme and to share the latest space updates by social media.
- Have experience of running 'meet the expert' sessions and facilitating discussion between the public and research scientists (or a desire to do this).

Geographical considerations

The goal of this project is to give schoolchildren and families across the UK the opportunity to explore and celebrate STEM through high-quality, engaging experiences.

When making the selection of the 5 centres, quality and reach will be the biggest factors, however, in the case of all other aspects being equal, the geographical spread of the 5 partners across the UK will be taken into consideration.

Key dates

Bidders' conference call	Thursday 18th January 2018 at 2pm
Deadline for Applications	Friday 26th January at 11pm
Selection Panel Meets	February 2018
Science Centres Training Academy	Tuesday 20th and Wednesday 21st March 2018*
Grant payment	Saturday 31st March 2018
Delivery of equipment to centres	April 2018
Delivery window	31st March 2018 – 28th February 2019
Final submission of your evaluation and report to ASDC	Thursday 28th February 2019
Launch of JWST	Spring 2019

*Date and venue to be confirmed.

How to apply

To apply, please fill in the application form that is available on the ASDC website. Re-save your application form in the following format: 'Destination Space 2 application – name of your centre'.

Please email your application to:

Dr Jaclyn Bell, Space and Physics Project Manager, T: 0117 927 6365, Jaclyn.bell@sciencecentres.org.uk

Please CC your application to info@sciencecentres.org.uk and ensure you get an email response saying your application has been received (call us if you do not).

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

Dr Jaclyn Bell, Space and Physics Project Manager, T: 0117 927 6365

Deadline for Applications: 11pm on Friday 26th January 2018.

The Bidders' conference call

ASDC will host a conference call at **2pm on Thursday 18th January 2018** to answer any questions from all potential bidders in an open manner. Please see further details on the ASDC website, and book through Eventbrite.

Note on Open Access and 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 are therefore licensed under creative commons. 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.