

Association for Science and Discovery Centres

### **Invitation to Participate**

Explore Your Universe: Valuing Inclusion 2024-2026

### Introduction

In October 2024 ASDC launched the new evidence-informed Theory of Change, funded by the Science and Technology Facilities Council (STFC). The <u>'Valuing Inclusion' ASDC Theory of</u> <u>Change</u> is a tool for advocacy, producing a shared language of impact and a framework for practitioners to measure, prove and improve inclusive science engagement.

The ASDC Theory of Change is backed by quantitative and qualitative research and evidence gathering programmes across the science and discovery centre and museum network, their youth and community partners, funders, evaluators and wider STEM partners and networks

The ambition of the Theory of Change is to break down barriers to engagement and open up pathways to opportunity for participants who do not feel that STEM is 'for them'. How? Through a focus on inclusive participant outcomes that speak to inclusive and equitable experiences and support:

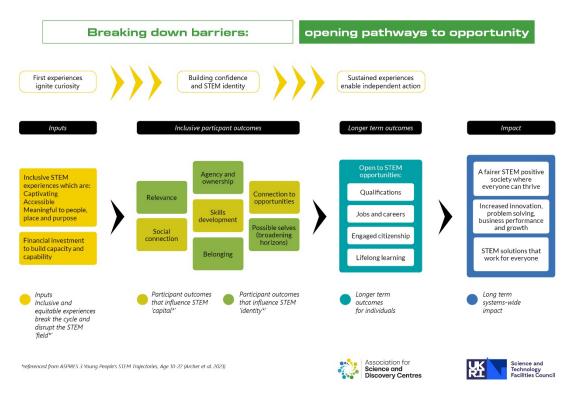
- Agency and ownership
- Belonging
- Relevance
- Skills Development
- Social connections
- Possible selves (broadening horizons)
- Connection to opportunities

ASDC is inviting proposals for projects that can devote time, staff expertise and partnerships to use STFC science and technology to implement the <u>Valuing Inclusion Theory of Change</u> in practice. This objective of this programme is to further refine and define the meaningful 'inclusive participant outcomes' and their role as mechanisms of change that can nurture STEM capital and STEM identity<sup>1</sup>.

We aim to evidence how they support individuals to progress – from first interactions that ignite curiosity – towards independent action and opening up choices and pathways in STEM.

This programme is a continuation of the work of *Explore Your Universe: Valuing Inclusion* (2024) and is funded by Science and Technology Facilities Council (STFC), part of UKRI. This programme launches in November 2024 with delivery of engagements with community partners and participants taking place between March and October 2025.

<sup>&</sup>lt;sup>1</sup> ASPIRES 3 Young People's STEM Trajectories, Age 10-22, Archer et al. (2023)



Please see Annex 1 for full image of the Valuing Inclusion Theory of Change.

### Is your organisation eligible to apply?

Participation in the previous phases of Explore Your Universe is <u>NOT</u> a requirement in this final funding for *Explore Your Universe: Valuing Inclusion*.

All ASDC members (excluding associate members) can apply for this grant programme. Those who apply must demonstrate:

- Commitment to be an ASDC member for the duration of the programme (valid membership must run from the submission of proposal until 31 March 2026)
- The ability to build new partnerships or work with current youth and community partners to co-develop project proposals.
  Please note, proof of co-development will be required at proposal stage for the grants of £9,500. This can be in the form of a letter of support from a partner or a signature within the application form.
- Experience to foreground STFC science, research, people and/or places as the catalyst to nurture these inclusive outcomes.
- Capacity to use of the Theory of Change to design proposal activities and approaches and engage fully with the language and evaluation process.

### Summary of delivery grants available

Delivery grants for science and discovery centres and museums will be split into two main options on application:

- Up to ten grants of £9,500 are available for co-designing a model of multiple ("4 or more") engagements with the same participants, investigating the progression of participant outcomes through pre and post evaluation methods where appropriate. You are required to work in close partnership with youth or community leaders for this grant.
- 2. Up to ten grants of £4,000 are available to explore the value of 'one-off' engagements that follow the guidance within the Theory of Change during design and delivery. Informal Science Learning engagements often take place as single events to ignite curiosity, and the impact of these 'captivating, meaningful and accessible' interactions for community audiences will be investigated through post-only evaluation. Please note that for the purpose of robust data collection, there is a minimum requirement to submit 50 individual evaluation responses.

The same organisation can apply for **both** a £9,500 grant and a £4,000 grant for planned programming that involves 'multiple/sustained' and 'one-off' engagements. We are looking to support between 10 and 20 organisations.

You are encouraged to work through current community partnerships and can engage with participants who have worked with you previously – particularly on STFC and STFC-remit programmes of activity, as this supports a model of multiple and sustained engagements and longer-term community partnerships that ASDC promotes.

For successful applicants, the delivery grant can be used for staff time in development, delivery and evaluation, alongside resource to upgrade or refresh current STFC engagement equipment and activities, consumables, venue hire, travel and subsistence, (etc). Grant claims are expected to include contribution to youth or community partners for their ongoing time and resource on processes of co-development, co-delivery and/or co-evaluation.

In addition to the delivery grants, ASDC will also provide:

Ten 'equipment' grants of £500 are available for successful applicants to apply for in order to refresh or purchase new STFC engagement equipment. Equipment purchased will need to follow tried-and-tested approaches from *Explore Your Universe* kit lists, or evidence close adherence to STFC science and technology, STFC stories, people and/or facilities in proposals. This will be a competitive grant, requiring short proposals that evidence need, and are particularly relevant for newer

organisations to the *Explore Your Universe* cohort who may not have equipment from previous phases. Centres can apply for more than one grant for more expensive equipment requests.

## *Ten Equipment grants of £500 can be claimed by successful science and discovery centres or museums*

'Development' grants of £500 are available for youth and community partners' time to work with science centres at the proposal stage. Supporting this crucial co-development process has many benefits during delivery, evaluation, for participant outcomes and the legacy of your partnership working.
 Ten bursaries of up to £500 can be claimed by community partners, whether or not the proposal is successful.

ASDC and STFC are keen that this funding supports a diversity of ASDC members in terms of operation, content specialisms, size and geographic location across the UK.

### Our goal: "Filling the gaps in the framework"

The most recent phase of *Valuing Inclusion* provided evidence that supported the measurement and validity of six of the seven outcome areas within the Theory of Change. The definitions of these areas can be found <u>here</u>.

### Multiple/sustained project holders: (£9,500):

Your project proposals should address at least two of the 'inclusive participant outcomes'. We will be investigating how a focus on these outcomes influences the longer term outcomes stated in the Theory of Change.

We are particularly interested in the following areas that require greater refinement (from the recommendations within our recent <u>Valuing Inclusion (2024)</u> evaluation report).

• 'Relevance'

The inclusive participant outcome of 'relevance' relates not only to content (e.g. the relevance of STFC science and research topics, places or people to everyday life), but also to the process of engagement with STFC science (e.g. the exploration of STFC science at a warm, welcoming and accessible environment is relevant). We aim to better define how participants view 'relevance' and reflect the full value and potential of 'relevance' across STFC science engagement experience.

• 'Agency and ownership'

We would like to encourage more projects to look at supporting agency in science and technology. We define agency and ownership as a person's capacity to act and to take action in their learning and lives. It's the extent to which a participant experiences a sense of ownership and voice within your interactions - a feeling of greater control to participate, perhaps to take the lead and influences, and to feel informed to use (or not use) STEM in their lives.

• 'Connection to opportunities'

This outcome area was not defined at the previous phase of Valuing Inclusion. It supports the ability for independent action and nurtures science capital by clearly signposting and providing accessible opportunities and pathways for future STEM engagement, alongside building confidence to support the uptake of these opportunities. We are keen to capture how your centres and museums do this, and the difference it makes.

### 'One-off' project holders (£4,000)

We are interested in understanding the value of 'one-off' interactions within the Theory of Change. We want to evidence their value, in particular whether these moments ignite curiosity in STEM for participants and what kinds of 'inclusive participant outcomes' seem to be most supported by one-off inspirational events. Grant holders are asked to design inclusive STEM experiences which are:

- 'Captivating' (inspirational / enjoyable / practical / interactive / full of fun / play / awe and wonder, etc.)
- 'Accessible' (easy for everyone to use, respectful of differing abilities and experiences, reaching across barriers to meet participants on their own terms.)
- 'Meaningful' (content areas that resonate with participants, through relevance to people (e.g. relevant to daily life and lived experience), place (e.g. relatable to their own local area) and purpose (e.g. address compelling areas that matter to participants e.g. healthcare, social justice, etc)

### **Target audiences**

- <u>Wonder</u> communities: Participants from the 40% most socio-economically disadvantaged areas of the UK Young people aged 8-14, their carers, parents, teachers and wider key influencers.
- Community partners who represent and work with underserved, marginalised and minoritised communities.

### Commitments of selected organisations

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

- 1. To work with *Wonder* audiences and their families, carer, communities and/or teachers focussing on our Project Goal (as explained above) and use of the Theory of Change in the design of activities and interactions.
- 2. To ensure that the content of your delivery links to STFC science, technology, stories, people and/or facilities and acknowledges STFC support.
- 3. To collaborate with a chosen community partner including at the proposal stage for multiple/sustained grants.
- 4. To ensure at least one member of staff attends the STFC Masterclass and networking meeting on 12<sup>th</sup> & 13<sup>th</sup> February 2025 at RAL Space, Didcot (your expenses to attend this event will be supported in addition to your grant award)
- 5. To allow a visit from the external evaluator for observations of activities as part of the data gathered during the delivery period.
- 6. To attend a final online interview with the external evaluator and project manager.
- 7. To submit all required evaluation and reporting of interactions required (this includes the metrics spreadsheet, participant evaluations, staff reflections, photos, case study reports and/or any video data) by the dates outlined in the timetable below.
- 8. To provide at least three professional quality photographs of delivery (such as during workshops, events, school visits) and confirm permissions so that ASDC is able to use these photos for reports and/or websites.
- 9. To market activities and materials in accordance with guidelines provided by ASDC, such as including ASDC and STFC branding where practical to do so.

### Evaluation

ASDC will be working with external evaluators - Dr Sophie Barlett and Dr Jen DeWitt - who will support science and discovery centres and museums to capture appropriate data and evaluate the impact of their programmes through a mix of quantitative and qualitative methods.

This programme has a focus on capturing data from both participants (the young people themselves, parents/carers/teachers) and practitioners (reflections from STEM engagement professionals and community partners on the project). This programme will investigate the importance of the participant-practitioner relationship (e.g. participants - scientist/science communicator) as well as the practitioner-practitioner relationships (e.g. science centre - community partner) as crucial enablers for positive impact. ASDC has several engaging, simple, tried-and-tested tools developed to capture these data directly from participant and practitioners. Data collection will also include on-site observations or focus-groups organised by our external evaluators to at least six of the projects.

The evaluation will not be entirely external, as we rely on you to implement chosen tools and ensure the evaluation is conducted ethically. An initial one-to-one meeting with the evaluators will be organised before your delivery starts, to discuss your evaluation plan and decide on the tools and approach to evaluation that will suit your engagements. You are welcome to invite your community partner to this meeting so that they help with appropriate decisions on your evaluation approach.

Larger grants that are looking at multiple/sustained engagements will work with the external evaluators to determine details around collection of pre and post evaluation data.

As noted above, as part of the overall reporting requirements we ask that you capture high quality images and/or videos of STEM engagements and participants, so please factor this – and the permissions process for this - into your delivery and evaluation plans.

Please note, we will always remain mindful and respectful of the quantity of evaluation data we request from your partnership and will ensure the assessment tools are suitable for participants needs and circumstances, as well as the contexts of the engagement.

The final reporting (published April 2026) of our evaluation will consist of:

- A cohort dataset evidencing the national impact of your organisations.
- A suite of individual case studies, updated across the full programme of Explore Your Universe: Valuing Inclusion.
- Updated tools and resources on the <u>Inclusion website</u> to support wider practitioners to measure and advocate for inclusive STEM engagement in the science and discovery centre and museum sector.
- Updates (where necessary) to the Theory of Change model

# Sharing STFC science, stories, people and facilities: "From Atoms to Astrophysics"

STFC's mission is to deliver world-leading national and international research and innovation capabilities and, through those, discover the secrets of the Universe. STFC's work is broad and far-reaching, touching on everything from fundamental research into the elementary building blocks of matter, to using pioneering technology to gaze out at our universe and investigate the birth of massive structures such as galaxies, with almost everything in between.

STEM topics include:

- Astronomy
- Cosmology
- Particle physics and Particle Accelerator science and technology
- Nuclear physics

- Dark Matter
- Quantum Computing, Big Data and High Performance Computing (incorporating AI and Machine Learning)
- Big Telescopes on Earth and in Space (e.g. the detection of Gravitational Waves, the Webb telescope)

In addition, ideas and engagement topics and activities can also be found in the handbook and resources on the original <u>Explore Your Universe website</u>.

We will be sharing a briefing document to support content decisions and the many links you can make to STFC in everyday life in January 2025. If you are uncertain whether your topic choices are considered relevant enough to STFC (for example, they may be more within the realm of the UK Space Agency funding) please get in touch to talk through your ideas.

### STFC Masterclass: Emerging technologies to solve complex problems

### Wednesday 12<sup>th</sup> February 11am-4.30pm at RAL Space, Didcot

ASDC and STFC are organising a day to dive into the fascinating science of STFC at RAL Space in Didcot. This is the first in what we hope to be a series of masterclass events which will be covering many STFC science topics listed above.

The event will include a keynote speaker, lighting talks from STFC scientists, guided tours of the specialist labs, group discussion tables and an ideation sessions on how to get hands-on with the content. We will be exploring:

- Demystifying machine learning and generative AI
- Quantum computing
- Applications of the above for healthcare and climate science

### ASDC Networking & Ideation morning

### Thursday 13th February 10am - 1pm at RAL Space

For the second day we are inviting science and discovery centres and museums back for a networking and creative ideation session to discuss the topics covered in the masterclass and work together in groups to think about ways to bring these topics to life for your audiences. We are looking forward to sharing ideas and resources for hands-on and engaging demonstrations and workshops on STFC science for your projects.

There will also be a session on working with researchers, delving into topics such as authority sharing. We encourage you to include working with STFC scientists and researchers within your project programming. Therefore, we are working with members to produce simple resources and ideas that can be put in place to enhance the direct engagement of scientists

and researchers who are less experienced in youth and community settings.

For more information please check the event page <u>here</u>, which will be updated regularly as we confirm the final details with STFC over the coming weeks. Please note spaces are limited for this event and open to all ASDC members. Registration will open in December.

2024	
November	Invitation to Participate Issued
18 <sup>th</sup> -19 <sup>th</sup> November	ASDC National Conference: Shaping the future of science together
	Dissemination of physical Theory of Change at the conference during the session: <i>Inclusive and equitable outcomes</i> : A model for evaluation
5 <sup>th</sup> December	Bidders Q&A meeting Register here
November - January	Science centre and community partner meetings taking place to develop proposals.
	1-2-1 meetings and drop in sessions available with ASDC to support development of proposals. Please contact our project manager <u>Cait</u> <u>Campbell</u> .
2025	
January	Science centre and community partner meetings taking place to develop proposals
	Community partner development grants can be claimed to support co- design of project proposals
17 <sup>th</sup> January	Deadline for proposal submissions
February	All successful and unsuccessful project notified of panel decisions. Selected delivery partners can start project development meetings.
	Contracts issues and Stage 1 (70%) grants distributed
12 <sup>th</sup> -13 <sup>th</sup> February	STFC Masterclass on STFC science and adjacent networking morning for delivery partners at RAL Space, Didcot. <u>Event page</u>

### **Programme Timeline**

March	Development of evaluation complete with evaluation support in place for all science centre/community partnerships
	Co-mentoring staff swap programme in place
	Equipment grants available for kit purchasing for successful applicants
	Delivery partners starting project development and delivery meetings
April - September	Recommended delivery window for science centre/community partnerships
	Staff swap opportunities taking place
	Check in and networking meetings taking place
	On-site visits from evaluators and project manager taking place
9 <sup>th</sup> /10 <sup>th</sup> September	ASDC national conference, with opportunity to network with project holders and share practice and learning
31 <sup>st</sup> October	Delivery of community engagement complete
14 <sup>th</sup> November	All evaluation data submitted to external evaluators
November / December	Final interviews taking place with project partners and community partners
2026	
10 <sup>th</sup> January	Case studies, photos and videos all submitted to ASDC Project Manager
31 <sup>st</sup> March 2026	Project end Dissemination of visual report, final reports and assets through ASDC digital channels and wider networks following review by STFC

### **Application Process**

### Bidder's Q&A session: 5th December 2024

ASDC will hold a bidder's Q&A session via Zoom on **Thursday 5<sup>th</sup> December 2pm-3.30pm**, where all ASDC members interested in applying will have the opportunity to hear about the programme from the ASDC team, have their specific questions answered and hear the responses given to others who would be bidding.

This open framework has been used in all previous ASDC programmes, to answer questions and give clarity over what centres need to deliver, schedules, audiences, grants, budgets and reporting before each centre applies.

### Please book your place on our event page here

### Our commitment to you

At ASDC we promise to practise the following principals in the ongoing communication, monitoring and administration of these grants and aim to be transparent at every stage:

- **Equity:** We are open to challenges of the structures we have in place that may contribute to these opportunities being less equitable across our sector. We commit to addressing all those within our power and remain transparent on decision-making processes, including who received funding and under what conditions these decisions were made.
- **Humility:** We do not presume to know the best methods or approaches to address these grant criteria within your context and will openly challenge explicit and implicit power-dynamics emerging from these presumptions within our funding partnership.
- **Evidence**: Where it is within our power, ASDC commits to using evidence to inform and justify all decisions on funding criteria and will value evidence-informed, professional proposals.
- **Service:** Through listening to the sector, we aim to ensure that grant seekers are being provided for with this fund and, wherever possible, the grant proposal processes we have in place support the needs of the grant seekers above the needs of the funders.
- **Diligence:** We encourage open and honest feedback on our process, are willing to listen, consider timelines, provide 1-2-1 support and will work to the best of our ability to allow for grant seekers to make the best of this grant opportunity.

### How to apply

To apply, please fill in the *Explore Your Universe: Valuing Inclusion 2024-2026* Application Form which will be available on the ASDC website at the **end of November**. We will also be directly emailing this link to you.

- Please send this to us as a word document.
- Please save your application form in the following format: 'EYU Valuing Inclusion Application [name of your centre].
- Please email your application to <u>admin@sciencecentres.org.uk</u> and ensure you get an email response saying your application has been received within 48 hours (resend or call us if you do not).
- Any questions, please contact the project manager Cait Campbell <u>cait.campbell@sciencecentres.org.uk</u>
- For the avoidance of doubt, in the case of any issues, please inform us well in advance of the deadline if you need a day or two extension into the following week.
- If you are unsure whether to apply please contact Cait with any questions.

We are looking forward to receiving your application and working with you Deadline for Applications: <u>5pm Wednesday 17<sup>th</sup> January 2025</u>

Annex 1. Valuing Inclusion Theory of Change

