



SMASHfestUK: A festival, a big story... an ADVENTURE!

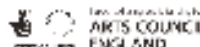
**WINNER: 2017 The ENGINEER - Collaborate to Innovate Award**  
*Young Innovator - Engagement Initiative*

**WINNER: 2016 NCCPE STEM ENGAGE Award**  
*the UK HE 'public engagement with research' award*

Our mission: "A world in which everyone holds the power to employ  
science & creativity for the good of humanity"

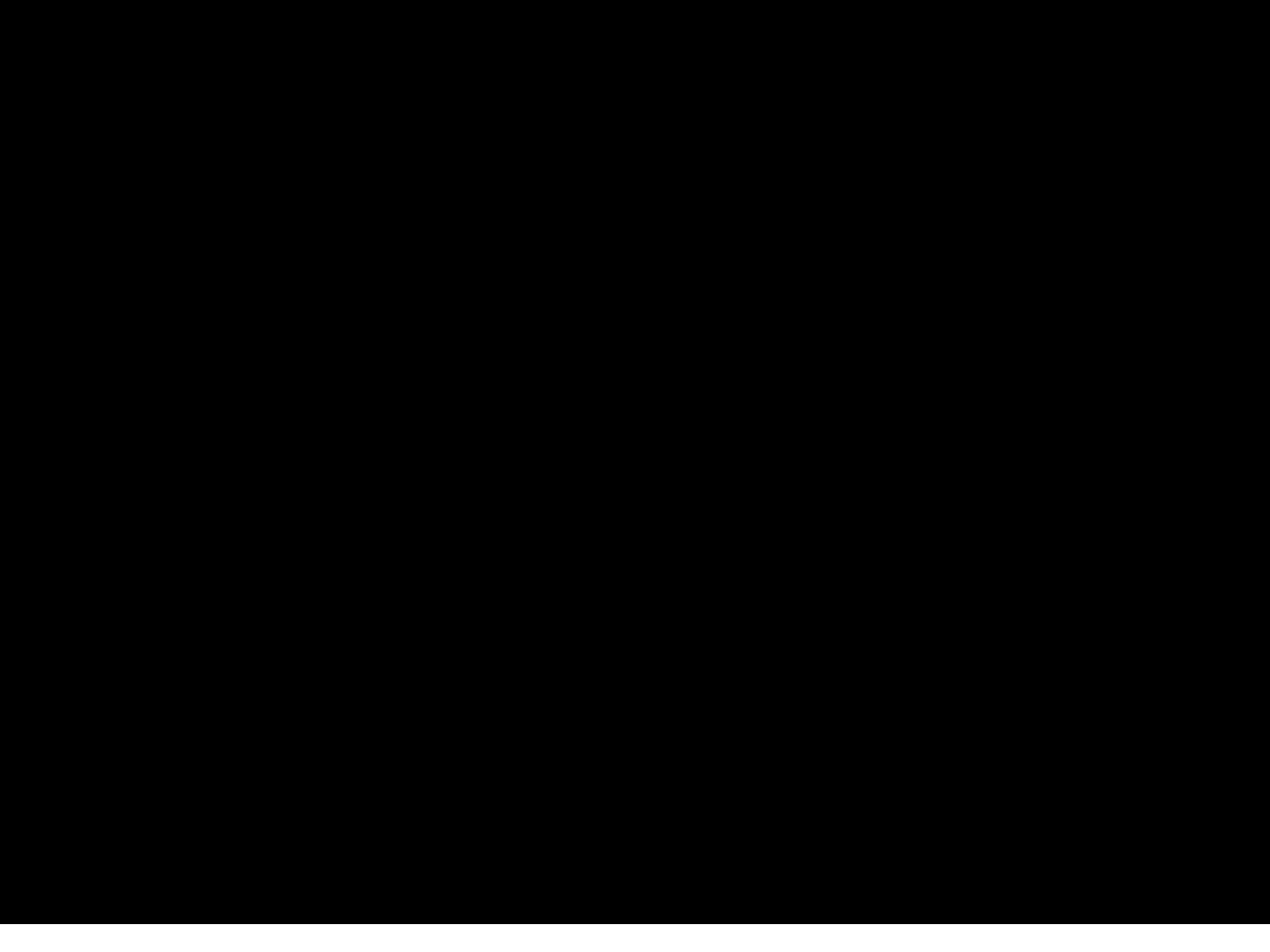


**wellcome trust**



Supported by: The Royal Observatory Greenwich, The National Maritime Museum, Greenwich and Lewisham Young People's Theatre, The Albany, The Septford Lounge, Lewisham Council, The Horniman Museum, The Science Museum, The Natural History Museum





# SMASHfestUK – Ingenious Grants:

2016 Survival Village  
2017 Earth and Sky Tour



# SMASHfestUK

**FREE!**

A BIG ADVENTURE for all the family - Comedy, music, performance, arts, crafts, science, engineering, games, activities, experiments...

[smashfestuk.com](http://smashfestuk.com)

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## EARTH & SKY TOUR

A world-killing disaster is about to hit Earth...  
An asteroid, a supervolcano, a pandemic, climate change...

Join us on the SMASHfestUK Earth & Sky Tour, in our 'Survival Village' & 'Space Camp' to work with engineers, scientists, designers, mathematicians, artists & technologists to explore:

What do we NEED to know? How can we PREPARE?  
How can we REBUILD? How can we LEAVE EARTH?

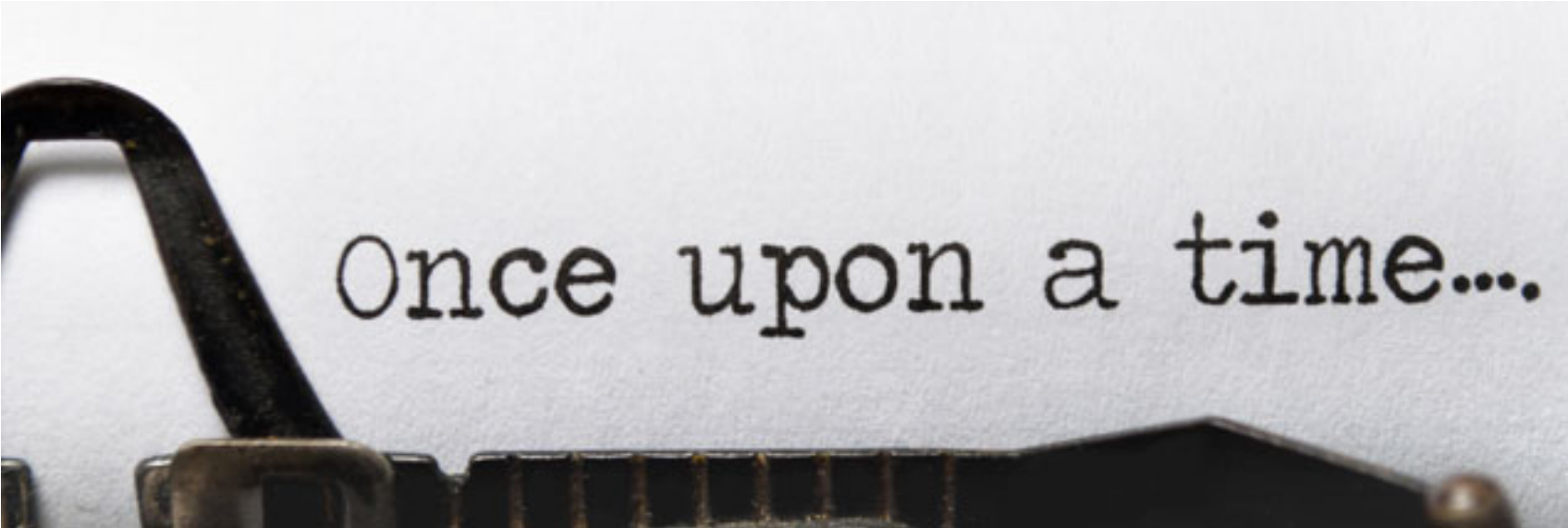
Sponsored by the Royal Academy of Engineering, the UK Space Agency & Middlesex University

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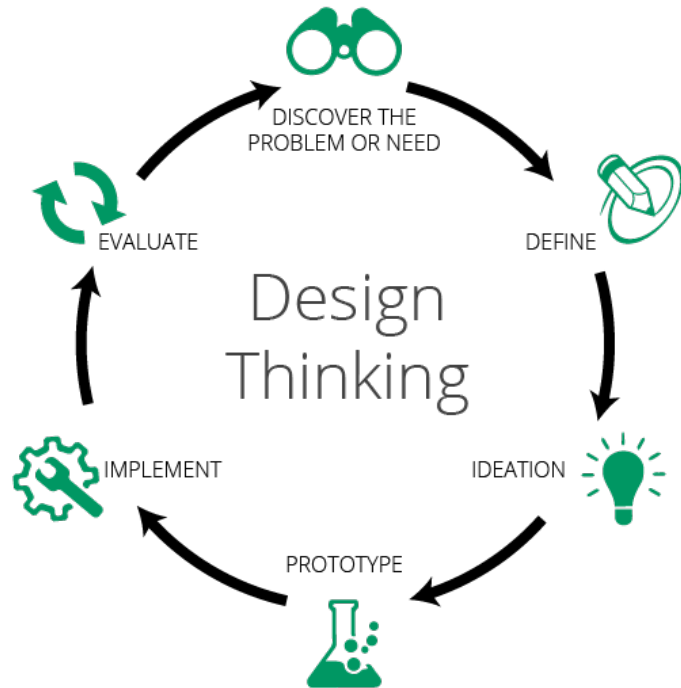
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Once upon a time...











Key Learning Points :

- **COMMUNITY**
- **STORY**
- **ENTERTAINMENT**



# Stories underpin Problem-Based Learning





# Visitor Profile –

Deptford, Colindale, Woolwich, Bradford,  
Neath, Gloucester, Greenwich

- Mostly **family groups**
- The adult visitors skewed **female**
- **Children** consistently skewed female
- The **ethnicity** of the visitors reflected the local demographic





# Building STEM Capital (also CULTURAL)

1. STEM Literacy
2. STEM-related attitudes, values and dispositions
3. Knowledge about the transferability of STEM
4. STEM media consumption
5. Participation in out-of-school STEM learning contexts
6. Family STEM skills, knowledge and qualifications
7. Knowing people in STEM-related roles.
8. Talking about STEM in everyday life



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FREE!

[smashfestuk.com](http://smashfestuk.com)



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# EARTH & SKY

A world-killing disaster is about to happen. An asteroid, a supervolcano, a pandemic...

Join us on the SMASHfestUK Earth & Sky Tour 'Space Camp' to work with engineers, scientists, mathematicians, artists & technologists to explore...

What do we NEED to know? How can we REBUILD? How can we survive?



Motivated by the Royal Academy of Engineering



# Survival Village

A disaster is about to hit Earth. An asteroid, a supervolcano, a pandemic, climate change. Everything you know & take for granted is about to be destroyed.

Join us on the SMASHfestUK 'Survival Village' to work with engineers, scientists, designers, mathematicians, artists & technologists to explore...



SMASHfestUK  
Key focus  
- Increase  
education  
- Explore  
audience  
and Cu  
- "In the  
- Lead  
- Create  
interg  
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# STEAM Capital and SMASHfestUK

**17% had never visited any other informal STEM or Arts events or museums**

**53% were frequent-consumers of informal STEM (3+ times per year)**

**28% were classified as moderate users**

**71% had never been to a STEM festival before**





# STEM Capital cont...

- **94% of the respondents that the event helped to show how STEM can be useful or relevant to everyday life**
- **83% of the respondents strongly agreed (57%) or agreed (26%) that the event had provided them with a forum to talk to their children about STEM.**
- **Only 50% strongly agreed or agreed that SMASHFestUK had increased their knowledge of careers available in STEM subjects.**



# Behaviour and Progression

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- 42% felt that they would **undertake further internet research**
- 43% felt that they would **share something that they had learnt** with their families or friends
- **Intergenerational family learning** is a really important part of what we do.



# Bridging the gap between arts and science

*“children do not see a distinction between the arts and the sciences - they just look at how the world works” (Adult Male, The Albany)*





# Significance of SMASHfestUK in the local community

SMASHFestUK is perceived as providing vital accessible educational opportunities to the local community - free of charge.

It is seen as providing inspiring and engaging activities that are accessible to those on low-incomes or who prefer to stay local.

Many respondents felt that the event was an opportunity to bring the community together raising aspirations and contributing to community wellbeing.







**96% of adults** rated SMASHfestUK 2017  
Supervolcano! as **Excellent** or **Good**

**98% of children** SMASHFestUK 2017  
Supervolcano! as **Excellent** or **Good**



# Children's evaluation

- 40% of the child respondents **were from local schools** visited by SMASHFestUK prior to the festival
- The children questioned were most likely to select an activity that they could take part in as their favourite activity.







# Child STEM Capital indicators

- 82% felt that the festival made them **more excited about STEM** subjects (enthusing)
- 79% felt that the event had **taught them new knowledge** about volcanoes (41% could provide evidence of this learning)
- 76% felt that the festival had helped them **understand how STEM connects to the real world.**
- 53% felt that the festival had **encouraged them to pursue a career in a STEM area**





# ID Cards

Takeaways and embedding learning and aspiration





Young  
Explainers and  
apprentices

# Young Explainers and Apprentices

**30 young explainers**

**42 Transport for London apprentices**

- encourage participation and increase access to STEM
- develop confidence in presenting to the public in a range of science/STEM and/or arts communication.
- gain experience of team-work, organisation, presenting, communication and public-speaking that are invaluable for professional work and could be added to their CV.
- strengthen their confidence of, and future participation in, STEM subjects/careers
- give access to networking opportunities





# Case Study – Orlando Millar





***“- the guy from the museum asked me to come along and present a workshop over the summer and I was actually asked by some of the parents if I would come and do workshops in their school and they’d pay me as well”***







# Contributor Evaluation



# Contributor Outputs

SMASHFestUK  
collaborated with:

- **10 universities**
- **4 museums**
- **58 researchers**



SMASHfestUK & RAE 'Survival Village'



# Contributor Outcomes and Impacts

**100% of contributors enjoyed their time at SMASHFestUK**

**100% felt that the public had learnt something as a result of their participation**

**100% felt that SMASHFestUK was a good forum to impart knowledge to the public**

**100% said they would contribute to SMASHFestUK again**







*"It was a great event, the children and parents engaged on various levels, many came back on both days. It was a success"*

(Yomi Ayeni, Clockwork Watch/RCA Transmedia Tutor)



# Contributor Outcomes and Impacts

*“I really enjoyed manning the stand with engineers from industry. I had some really interesting conversations with them about their work and it was valuable having them there when talking with the public. In particular, they were able to talk about real industrial applications of the activities we were doing”.  
(Aleksandar Zivanovic, Middlesex University)*





# School Outreach

- 3276 children
- 9 schools
- 90% of teachers agreed that these were valuable
- 78% of teachers felt that the workshops engaged the children in STEM more than usual.
- 100% of teacher would recommend SMASHFestUK.

*“The children learnt what a volcano is, where they occur, tectonic plates, safety in experiments and what happens in a volcano - it was very engaging for the children and they are all excited about their learning next year”*

(Teacher, St Mary's Primary)





## SMASHfestUK – Learning points – big questions:

- Who is your audience? Ecology of stakeholders.
- What are you trying to achieve? Not just attendance numbers.
- How are you going to make your project meaningful to your audience? Context, narrative, connection to the community.
- What is your intended Impact. Us - various metrics, developing various stakeholders, changing the conversation.









## SMASHfestUK – More learning points:

- Promote through the appropriate channels for your audience - change in FLOOD! Strategy due to 2016 Evaluation
- Be actively inclusive.
- Learn to improvise. Things will go wrong, plans will change.
- “It’s all about the team!”. The right people are very hard to find. Collaboration.
- Fall in love with spreadsheets...
- Record everything!
- Plan for continuance. What’s next? How can we do it/Fund it? Funding is problematic. Fragmented, episodic and project-based. Core funding is excluded from most disciplinary-specific funds.





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## SMASHfestUK – Strategic Planning:

- Explore strategic and delivery models eg **SOMUCH – Social Organisations, Museums & universities as Community Hubs**
- develop strategic relationships with other university hubs
- develop 'in a box' assets - how tos for use by partner hubs
- develop ID Card activity as core of experience and route to deeper evaluation of informal educational approaches to building intergenerational STEM capital
- refine activity set, coupled with ID card activity to give 'biggest bang for buck' for optimum impact. Resource/impact quotient.
- **Consolidate learning. Develop sustainable, scaleable model.**





*To be continued...*



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Arts Council  
ENGLAND



Science & Technology  
Facilities Council



UK SPACE



UNIVERSITY  
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# THANK YOU!

Dr. Lindsay Keith – University of Greenwich/SMASHfestUK  
Wyn Griffiths – Middlesex University London/SMASHfestUK