



# BIG Event

## 19-21 July 2017

The Centre for Life, Newcastle



## PROGRAMME

The skills-sharing event for people involved in the communication of science, technology, engineering and maths

# Welcome from BIG's Chair

## Welcome to Newcastle and the BIG Event 2017!

The Centre for Life is one of our regular BIG Event venues and they are always wonderful hosts and contributors, so it is lovely to be back in this innovative science centre. As ever, there are many thought-provoking sessions in the programme to tempt you, but do also take the time to look around – especially Life's newer galleries such as the Brain Zone and the Experiment Zone as well as the Dino Jaws touring exhibition from the Natural History Museum.

This is our 21st BIG Event and we are having a party to celebrate our 21st birthday at the Observatory Science Centre in East Sussex on the 2nd September (all part of a wider package including camping and an Astronomy Festival from 1st-3rd September 2017). So if you really enjoy the next few days here in Newcastle and would like more of the same friendly networking in a beautiful location (plus cake and fizz of course) then please do come and join in the fun! See more on page 19.

The BIG Event has gone from strength to strength over the years and remains a highlight in the science communicators calendar. We always love to welcome new people to the event, as well as old friends, and we now represent a very diverse community which is fantastic for stimulating creative ideas and connections.

This year we have 150 delegates attending the whole event, as well as another 30 people popping in for a day or two. There are about 70 organisations represented, including 20 universities, and a significant core of 25-30 freelancers which is always positive indicator of the value of the event to individuals.

I look forward to meeting as many of you as possible over the next few days – the BIG Event has been a source of professional sustenance for me ever since it started and I feel very fortunate to be able to say that I have now attended 16 of these fabulous gatherings!

### **Bridget Holligan, Chair**

*Bridget is Director of Education and Engagement at Science Oxford*



## A little bit of a BIG thank you

Working with The Centre for Life over the year to put the BIG Event together is always a pleasure. Staff here have been huge supporters of BIG from the centre's inception and so have no doubt been the beneficiaries for their involvement. That's BIG operating as it aims to. Activity in, benefit out; benefit in, activity out.

Thanks to Elin Roberts for pulling things together for us, and making things hang together to

produce the best blend for BIG – excellent conference facilities with sound visitor and learning experience.

Sheila Smith, Andy Lloyd and the learning teams at Life have been wonderfully relaxed and business-like to work with.

Thank you for Linda Conlon or having us back for a third time.

# About BIG

BIG is a not-for-profit membership organisation – its ideas and activities are driven, developed and usually delivered by its 350 members. 1,000 people also belong to BIG-Chat, BIG's e-mail list – an active line of communication to exchange examples of good practice, air views, publicise events and news items and circulate job adverts in the field of STEM engagement.

The organisation's administration is carried out by a small band of tireless, dedicated and fabulous members who have volunteered to set up and run regional events. Finally, BIG charges two administrators to look after the members, organise larger events, support volunteers and promote BIG.

Look out for them around the Event – ask them what the Executive Committee does and how this work could benefit you.



Karl Byrne  
Vice Chair



Lucy Moorcraft  
Treasurer



Natalie Ford  
Secretary



Andy Miah  
Ordinary Member



James Bamford  
Ordinary Member



Sarah Vining  
Membership Services Manager



Rachel Mason  
Event Organiser



Ashley Kent  
Event Organiser

## Your BIG Membership

**Now you are a member of BIG you'll enjoy lots of lovely benefits, which include:**

- regular UK-wide events and training courses.
- free entry to participating science centres and museums with your membership card.
- a quarterly e-newsletter featuring the latest news and articles, written by and for BIG members.
- access to extra information and resources in the Members' Area of our website.
- inclusion in our online directory of contractors, science centres, members, and their interests.



## FAQ

**Q: Wednesday Evening – do I need a ticket? Is there food? Where is it?**

**A:** You don't need a ticket – everyone attending the BIG Event is welcome. We'll be meeting informally at The Red House, 32 Sand Hill, NE1 3JF from around 6pm. We have booked a space just for us but we expect to spill out across the various rooms of the pub. The Red House is a pie-and-pint affair but if you are not a pie person there are lots of other eating places just a minute's walk away. Please pop out and back as it suits you.

**Q: Thursday Evening – where is it? Do I need a ticket? What happens?**

**A:** You don't need a ticket but you do need to be on the guest list. You can find this on the notice board at the Welcome desk. If you can't see your name there and you think it should be, please come and talk to us. The dinner takes place at The Centre for Life from 7.45pm. Dinner at 8pm until 10.30pm. After that, your evening is your own. Please see Page 13 for full details.

**Q: Best Demo Competition – where is it? Can I compete?**

**A:** The Best Demo Competition will take place following afternoon refreshments on Thursday 20 July, starting at 5pm. Competitors are lined up in advance so no room for late-comers this year, sorry.

**Q: Would you like me to share my photos?**

**A:** Yes, please add them to BIG's Facebook pages or email to [admin@big.uk.com](mailto:admin@big.uk.com)

**Q: Delegate list – why haven't I got one?**

**A:** To avoid missing anyone out who registered late, we produce it late. You can pick one up at the welcome desk.

**Q: Membership card – where do I get mine? How do I find out about BIG membership benefits?**

**A:** You are now a member of BIG and your card is in your delegate folder. If you have any questions about membership, please see Sarah at the Welcome Desk.

*Please visit us at the Welcome Desk so you don't miss any impromptu activities or changes.*

**At any time during the conference, you can call Rachel Mason with your questions on 0776 039 5585**



Life



BIG STEM Network



@bigchats  
#bigevent17

# Wednesday 19 July

	Granger	Marlborough	Blaydon & Gibbs	Planetarium	Junior Lab	Senior Lab
11.00 - 1.00	<b>Life Science Centre open – all welcome</b>					
12.15 - 1.00	<b>REGISTRATION and COFFEE</b>					
1.15 - 1.45	<b>WELCOME</b> (Lecture Theatre)					
1.45 - 2.00	followed by... <b>The BIG Event Mingle</b> (Foyer)					
2.00 - 2.30						
2.30 - 3.00						
3.00 - 3.30	<b>COFFEE Break</b>					
3.30 - 4.00	<b>Electric Cabaret</b>	<b>Taking the Science Outside</b>	<b>Impact</b>	<b>Poetry Promoting Physics</b>		<b>Audiences with Special Needs</b>
4.00 - 4.30						
15 min						
4.45 - 5.15	<b>S*** Actually Happens</b>	<b>Exhibits: Innovate or Evolve?</b>	<b>Bother with Blogging</b>		<b>Problem Solving &amp; Maths</b>	<b>Tactile Universe</b>
5.15 - 5.45						
6.00 onwards	<b>Meet for pies &amp; drinks – Redhouse, 32 Sandhill, Quayside, NE1 3JF</b>					

## The Electric Cabaret

**Granger • 3.30 - 4.30pm**

High-voltage electricity shows and demos are some of the most effective engagement activities around. But they come with health warnings. Join Marty Jopson as he shares his many years of experience playing with electrons as part of a performance. Marty will share his secrets, and show off some of the best effects to encourage more people and places to take the plunge into electrifying science engagement. He'll cover everything from how to get a Van de Graaff machine working nearly every time to staging record breaking spectaculars.

*Marty Jopson, Freelance*

## Taking the Science Curriculum Outside

**Marlborough • 3.30 - 4.30pm**

From 'Working Scientifically' to 'Everyday Materials' or 'Evolution and Inheritance', the new(ish) primary school curriculum offers a whole heap of opportunities to take practical learning outdoors. Join Science Oxford as we share our interactive workshop ideas, test out a few of our favourite activities and discuss what works (and what doesn't!) in your setting. Please feel free to bring along your ideas too – we'd love to have a go at some of your activities as well!

*Sophie Batin, Education Outreach Manager, Science Oxford*

*Ian Snell, Education Outreach Officer, Science Oxford*

*Sarah Townson, Technology Projects Officer, Science Oxford*

*Bridget Holligan, Director of Education & Engagement, Science Oxford*

## Impact – that’s all about hitting stuff, right?

**Blaydon & Gibbs • 3.30 - 4.30pm**

Impact is important for universities and research organisations as they participate in the REF (Research Excellence Framework). Join four practitioners with different angles on Impact and the REF to find out more, why it matters, how it works and where you fit in. Impact is an entire conference in itself, we’ll look briefly at what Impact is and what it might be; how researchers’ work has Impact; developing Impact with freelancers; and planning, evidence gathering and informing programme or activity developments. In addition we’ll be gathering ideas should members wish to hold a BIG Skills Day on the topic.

*Helen Obee Reardon, Cardiff School of Engineering*

*Mhairi Stewart, Head of Public Engagement, St Andrews University*

*Andy Miah, Chair in Science Communication and Future Media, Salford University*

*Neil Bennett, Scientific Communications Lead, Cancer Research UK Cambridge Institute*

## Poetry Promoting Physics

**Planetarium • 3.30 - 4.30pm**

Performance in planetarium and panel discussion. A poet, a composer and some scientists walked into a planetarium... What came out was a collaborative performance piece calling on strengths from all backgrounds, but how does a poet explore difficult ideas in physics and promote these through performance? Poet Katrina Porteous worked with composer Peter Zinovieff, Chris Hudson, planetarium supervisor at Life and Think Physics at Northumbria University to bring a brand-new performance piece - Sun - to Life in 2016. Part performance, part discussion, this session will address the challenges and benefits of mixing art and science.

*Chris Hudson, Planetarium Supervisor Centre for Life*

*Katrina Porteous, Poet*

*Carol Davenport, Director Think Physics, Northumbria University*

## Audiences with Special Needs: what to expect and how to make things work

**Senior Lab • 3.30 - 4.30pm**

Do you want to design sessions for children and/or adults with special needs? Get hands-on with tried and tested activities from ‘Exploring Chemistry in SEND Schools’ (Royal Society of Chemistry). I’ll be sharing some top tips and we’ll brainstorm some ideas to help you develop an activity suitable for your centre. This session should also be useful if you are working with pre-school and primary children.

*Sarah Beachell, Sarah’s Adventures in Science*

## When S\*\*\* Actually Happens

**Granger • 4.45 - 5.45pm**

You do your risk assessment. You set up safely. Your venue provides everything you’ve requested and you follow tried, tested and approved methods. Yet, despite this, something goes wrong. What do you do? What should you do? What’s it like? What mental & physical tolls can an incident take? What procedures kick into action? Is it scary or is this part of the package of being professional? Matthew shares some very personal experiences in this open, frank session about why risk assessments and communication really do matter.

*Matthew Tosh, Freelance*

## Exhibits: Innovate or Evolve?

**Marlborough • 4.45 - 5.45pm**

A conversation about how we are thinking about exhibits and exhibitions in 2017. A panel with decades of experience designing, developing and building exhibits for many leading organisations will discuss: What has changed in the way we think about exhibits in the last 10 years? What have we learned about the way people interact with exhibitions and exhibits? What is ‘in fashion’ and ‘out of fashion’ and why? What do materials, electronics, technology and manufacturing enable us to do now that we couldn’t do ten years ago? What do you (BIG-members)

think? The discussion will be open to all.

*Lyndsey Clark, Consultant*  
*Bethan Ross, Senior Audience Researcher,*  
*Wonderlab, Science Museum Group*  
*Kenneth Boyd, Director, FifeX Ltd*  
*Andy Lloyd, Head of Special Projects,*  
*Centre for Life*

## Why Bother with Blogging?

**Blaydon & Gibbs • 4.45 - 5.45pm**

Would you like to start a blog but don't know where you begin? Blogs can be a very useful tool for sharing knowledge and reaching a global audience. This session will take a look at the blogs featured on the science made simple website, why we write them, how we get them to our audience, and some lessons we have learned over the years. Please bring your blog ideas and any questions you may have, there will be a discussion and an activity to help your blogs get up and running.

*Becca Smithers, science made simple*

## Problem Solving and Maths

**Junior Lab • 4.45 - 5.45pm**

The skills developed by problem solving in mathematical tasks have hugely broad applications, and one of the major benefits of studying maths is the ability and drive to tackle new and difficult tasks. This will be a session for sharing our favourite mathematical problems, and discussing the ideal combination of low entry point and rich ongoing extension work. We can aim to cover primary and secondary, and while we'll bring along some examples, you can also present your own.

*Katie Steckles, Think Maths*  
*Samantha Durbin, Royal Institution*  
*of Great Britain*

## Tactile Universe and Tactile Collider

**Senior Lab • 4.45 - 5.45pm**

Particle physicists and astronomers have embarked upon two innovative projects to reach a Visually Impaired (VI) audience with the latest astronomy, astrophysics, cosmology (Tactile Universe); particle physics and accelerator (Tactile Collider) research in the UK, making these traditionally visual areas of research more accessible, using a wide variety of tactile and aural methods. Try out the activities for yourself with blindfolds on. Hear about what we have learned along the way, and about our next steps to engage with this typically hard to reach audience.

*Dr Marieke Navin, Madlab*  
*Dr Robert Appleby, University of Manchester*  
*Dr Jen Gupta, University of Portsmouth*  
*Dr Nicolas Bonne, University of Portsmouth*  
*Dr Christopher Edmonds, University of Liverpool*

## After Hours Wednesday...

**6 - 10pm**  
**North East Pie Comm**

Wednesday night is the night we meet for a bite to eat and a drink or two with no particular aim in mind (some call it a networking event). Not everyone comes, but most do.

Pop back to your hotel, or don't. We'll be meeting at The Redhouse, 32 Sandhill, Newcastle upon Tyne NE1 3JF for a drink and a pie. Just ten minutes' saunter from the Centre for Life.

All are welcome – you don't have to be a BIG Event delegate to attend. If you don't like a pie, there are lots of places to eat within drifting distance – all diets catered-for.

Food and drink at your own expense tonight.

# Thursday 20 July

	Granger	Marlborough	Blaydon & Gibbs	Swan Room	Junior Lab	Senior Lab	
8.30 - 9.00							
9.00 - 9.30	<b>Registration &amp; Coffee</b>						
9.30 - 10.00	<b>Volunteering</b>	<b>Healthcare</b>	<b>What Should Unis be Doing?</b>	<b>Cellblock Science</b>			
10.00 - 10.30							
10.30 - 11.00							
11.00 - 11.30	<b>COFFEE Break</b>						
11.30 - 12.00	<b>Working Overseas</b>	<b>Thinking, Doing, Talking Science</b>	<b>Proper Science</b>	<b>What Were we Thinking? Centre for Life Tour - Meet in the Foyer</b>			
12.00 - 12.30							
12.30 - 1.00							
1.00 - 1.30	<b>LUNCH</b>						
1.30 - 2.00							<b>BIG AGM 1.30pm</b>
2.00 - 2.30							
2.30 - 3.00							
3.00 - 3.30	<b>Best Demo Prep (Closed Session)</b>	<b>Science Podcasting</b>	<b>Mapping it Out</b>	<b>Tinkering Across Europe</b>	<b>Making Miniature Machines</b>	<b>Unconscious Bias Toolkit</b>	
3.30 - 4.00							
4.00 - 4.30							
4.30 - 5.00	<b>COFFEE and snacks to tide you over to dinner</b>						
5.00 - 6.30	<b>BEST DEMO COMPETITION – Marlborough Room</b>						
6.30 - 7.45	<b>Drink, Think and Tinker – Mezzanine</b>						
7.45 - 10.30	<b>Dinner at 7.45 for 8pm – Granger Room</b>						



## Volunteering: Gaining Scicomm Experience & Effective Use of a Generous Resource

**Granger • 9.30 - 10.30am**

Volunteering is a big part of the science communication world, in early career as a skills-gathering tool, within organisations as support for events or by individuals wanting to share their skills. This discussion workshop aims to give insight into the world of volunteering and top tips from the perspective of both volunteer and organisation looking to tap into this wonderful resource. Topics covered will include: types of volunteering, how to get involved, reasons, recruitment, retention, reward, training, quality and evaluation.

*James Bamford, Institute of Physics  
Hannah Renshall, Outreach Officer,  
Institute of Physics*

*Paul Treble, STEM Ambassador & Trustee  
of Disabled Afloat Riverboats Trust*

## Healthcare: Stop, Collaborate & Listen!

**Marlborough • 9.30 - 11am**

An informal facilitator-led workshop to discuss how we can encourage the public to collaborate and engage with the health system and care more about their health. This may include questions like: Why should people take ownership of their health? How can people be engaged about how drugs are developed? How can we ensure best use of the NHS? How can we remain healthy? What does the future hold as the world changes over the coming decades? From this, a set of tangible outcomes will arise to aid conversations with the public around the most critical of topics: our health.

*Dr Chris Hall, Aurora Communications*

## What Should Universities be Doing for Science Communication?

**Blaydon & Gibbs • 9.30 - 11am**

Universities are a valuable source of scientific knowledge and facilities; yet some have full outreach calendars and others seem to do very little. The session will be divided into two parts; a group discussion followed by a chance to get hands on with some activities. The session will focus on: Why do some Universities do so much whereas others don't? Should Universities be obliged to contribute to SciComm? How can Universities be supported in providing more science outreach? What activities do different Universities in the UK provide?

*Joanna Aldred, Durham University*

*Bethany Kazmierski, PhD Student,  
Durham University*

*Jaspreet Sanghera, PhD Student,  
Durham University*

*Dr Joanna Buckley, Sheffield University  
Prof. Nazira Karodia, Interim Head of Faculty  
of Science and Engineering and Professor of  
Science Education, Wolverhampton University*

## Cellblock Science: Designing Activities for Public Engagement in Prisons

**Swan Room • 9.30 - 11am**

Designing public engagement activities in places where materials are highly restrictive is a challenge on its own, but what about in an environment where STEM is under-represented and audiences have been switched-off because of previous educational experiences? In this highly interactive session join us for a quiz like no other as we explore how to bring sustained engagement into prisons and restrictive environments based on our work in Scottish prisons.

*Amy Hayward, Cellblock Science Coordinator,  
University of St Andrews*

*Dr Mhairi Stewart, Head of Public Engagement,  
University of St Andrews*

## Working Overseas

**Granger • 11.30am - 1.00pm**

Many science communicators are asked to take their glowing gherkins, hydrogen balloons and teaspoons to other parts of the world. What is it like when you get there though? How do cultural differences affect your performance? Are there top tips for being a hit on stage and securing more overseas adventures? Speakers will share their experiences of working around the world and together we will try to draw up a checklist for international travel.

*James Piercy, science made simple*

*David Price, international performer & Schipol sleeper; took a job in Trinidad which he says changed his life*

*Dr Ken Farquhar, science show presenter and widely travelled juggler. Ken will talk about his Malaysian & Japanese tours*

*Rick Hall, Winston Churchill Fellow. Rick will talk about his African experiences*

## Thinking, Doing, Talking, Science: What can Science Communicators Learn from Teaching Strategies?

**Marlborough • 11.30am - 12.30pm**

Thinking, Doing, Talking, Science is a nationwide project focusing on the development of cognitively challenging, practical, and interactive primary science lessons. Academic research, teaching practice, and science communication combining to provide rewarding CPD for teachers. Join TDTS project developer and lead Bridget, and TDTS trainers Ruth and Nicky as we discuss how teaching strategies can enrich the work that science communicators do across the board.

*Ruth Perkins, science made simple*

*Bridget Holligan, Science Oxford*

*Nicola Waller, Centre for Industry Education Collaboration*

## 'Proper Science'

**Blaydon & Gibbs • 11.30am - 1pm**

When children conduct experiments they often cry out 'This is proper science'! Yet kids are by nature the most curious "scientists" and ask great questions about how the world works. Both Vienna Open Lab and Centre for Life's Experiment Zone invite families to conduct experiments, allowing parents, grandparents and children to work side by side, observing, planning, testing and collecting data. Why are some activities more successful than others? How can they be improved? Is there a way to promote experiments without reinforcing misconceptions? Discuss your experiences, and join in with a few of our experiments to try.

*Marilena Pace, International Centre for Life  
Manuela Ringbauer, Project Manager,  
Vienna Open Lab*

## What Were We Thinking?! A guided Tour of Life's Galleries

**Meet in the Foyer • 11.30am - 12.30pm**

Life's galleries have evolved since we opened our doors in 2000. Join Life staff on a tour through the exhibition spaces exploring the rationale behind this change and the research shaping our thinking.

*Elin Roberts, Head of Public Engagement,  
Centre for Life*

*Andy Lloyd, Head of Special Projects,  
Centre for Life*

**BIG AGM****Granger • 1.30 – 2.15pm**

BIG STEM Communicators Network operates as a not-for-profit organisation of members – a club, effectively; everything it does is to support the development of the science communication profession in the UK and beyond.

BIG's AGM is held during the BIG Event to give as many members as possible a chance to contribute: to have a grasp on what the executive committee has done for the membership over the last year and to help shape the next year or two.

Everyone welcome. Please bring your two-pennyworth. Find out too what joining the BIG Exec Committee is all about and give it some consideration as something that could broaden your professional horizons.

*The BIG Executive Committee*

**Best Demo Prep****Granger • 2.30pm - 4.30pm**

This a closed session, just for Best Demo competitors to set up and helpers to help. Strictly no peeking in here please. If you're competing, please drop in even if you don't need any set-up time

*Karl Byrne, Vice Chair,  
BIG's Executive committee*

**Science Podcasting for All****Marlborough • 2.30pm - 4.30pm**

Technology can allow almost anyone to become a writer through blogging, a video star via YouTube or a broadcaster via podcasting. But what makes a good science radio show or a podcast? Rhys Phillips presents a weekly science magazine show syndicated around the world as well occasional science reports for BBC Radio. In this workshop, participants will look at the different types of content/features that work in a science radio show/podcast and as a group, we'll prepare and record a short radio show by the end of the workshop.

*Rhys Phillips, Radio Cardiff*

**Mapping it Out: Finding your Way Around Sci-Comm****Blaydon & Gibbs • 2.30pm - 4.30pm**

Finding your way around our sector is pretty darn confusing! There's informal science education, public engagement, the learned societies, all with different priorities. But are we all doing fundamentally the same thing?

Join us for this workshop where we map how it all fits together, noting how we can break down barriers to collaborate, take advantage of opportunities and learn from each other across this varied growing sector. The workshop will produce an Euler diagram; a future resource for BIG members to use.

We will provide many different coloured pens, however we need you to provide the knowledge and insight.

*Dr Suze Kundu, University of Surrey  
Dr Dominic Galliano, Director of Outreach  
& Public Engagement, SEPnet*

## Tinkering Our Way Across Europe

**Swan Room • 2.30pm - 4.30pm**

Over the last couple of years Life has been part of a project developing and promoting Tinkering, funded by the Erasmus+ programme of the EU. This session is to share what we've developed for the project (meaning Tinkering activities to come and have a go at!). We'll also share what we've been doing in training with teachers and youth workers, our thinking on the ethos of Tinkering and why we love it, and tips for facilitation. Come along, have a chat, have a play, have a think.

*Naomi Foster, Centre for Life  
Lindsey Stevenson, Maker, Centre for Life*

## Mechanical Engineering: Design, Build & Present Working Miniature Machines

**Junior Lab • 2.30pm - 4.30pm**

Resources and instructions are provided for a session of fun practical making to inspire wonder in mechanical science. After a short introductory demonstration, participants will form small teams that will either design and build an aircraft or a working hydraulic arm from card, split-pins, plastic tubing, syringes and paper tape. With the addition of a flight unit, receiver and transmitter teams will then

demonstrate their engineering in a short fun show that presents to a fresh audience how the activity and resources could engage young people with their science heritage and vision of the future.

*Hugh Thomas, My Future My Choice  
Polly Barnes, Director of Education, My Future My Choice*

## Your Unconscious Bias Toolkit

**Senior Lab • 2.30pm - 4.30pm**

None of us are aware of our unconscious biases, but fortunately some of us are aware of our lack of awareness. NUSTEM and the Institute of Physics have both been working to help practitioners understand and combat their biases. In this session, we'll share our best practice with facilitators and trainers, enabling you to incorporate our latest thinking into your work. What exercises work, how do you overcome understandable resistance, and how can you affect long term change in your audiences?

*Joe Shimwell, Primary Science Outreach Specialist, NUSTEM – Northumbria University  
Dr Jenny Search, Improving Gender Balance Project Officer, Institute of Physics*

## Josh Award

The Josh Award is an award established to recognise and support up-and-coming talent in science communication. The Award is inspired by and named in memory of Josh Phillips who was the first Science Communication Officer at the Museum of Science and Industry, and Chair of BIG at the time of his passing.

The award recognises a defining moment in the career of a science communicator; a person who is a practicing scientist or someone who has chosen science communication as their profession.

The 2017 winner Jon Chase will tell us more about it during the Best Demo Competition, what he's doing and where it is taking him. *You can find out more about how to apply in 2018 here: [www.big.uk.com/josh](http://www.big.uk.com/josh)*



**MUSEUM OF  
SCIENCE  
INDUSTRY**

## After Hours Thursday...

### The Best Demo Competition

Granger • 5 - 6.30pm

**BIG members line up to compete for one of the least valuable and yet most highly prized honours in UK science communication.**

The Best Demo Competition presents a light-hearted look at some of the demos you think are worth sharing with your peers. There's no money to win, it's not an Oscar, it's not a Nobel Prize. But within BIG we think it is worth winning.

Each competitor has no more than three minutes (and a warm and welcoming audience) to demonstrate the maths, science, engineering and so on that really lights their fire and they just can't help showing off to their peers. The audience decides. If you're in the audience, don't take it too seriously; if you're competing, take it seriously but not too seriously.

## And on to the judging... Best Demo winners...

1997	Wendy Sadler
1998	Derek Fish
1999	Chris Norton
2000	Gillian Pearson
2001	Gillian Pearson
2002	James Piercy
2003	Suse Brumpton
2004	Rob Copeland & Izi Mohammed
2005	Ben Craven
2006	Marcus Weber
2007	Ben Craven
2008	Diane Gray
2009	Ian Simmons
2010	Farrah Nazir
2011	Brian Macken
2012	Karl Byrne
2013	Marcin Chydziański & Błażej Dawidson
2014	Stephen Williams
2015	Matt Pritchard
2016	Tobias Happe

### Drink, Think & Tinker

6.30 - 7.45pm

After the Best Demo Competition, waft up to the Mezzanine for a tippable and a prolonged discussion about *Which Was the Best Demo and Why*. While you're arguing, fiddle with some stuff to work up an appetite for your dinner.

### Low-Fi Demos Jam

Try out some demos, tricks and interesting tidbits which can be performed using only objects you're already holding, or even no kit at all. Add to your repertoire of very useful backup material, busking activities and wotnot. We'll have some at the ready and you can add your own gems.

*Katie Steckles, Think Maths*  
*Duncan Yellowlees, Inventor & Science Communicator*

### Go Ballistic!

Make a ping-pong ball-firing catapult using our instructions, and you'll find... it's rubbish.

Your challenge is to tweak, test, adapt and improvise until you have something... magnificent.

Can you top our leader board and carry off the grand prize? No? Oh well...

*Jonathan Sanderson, Northumbria University*

### Miniature Machines

If you made miniature machines in the session earlier today, show them off to everybody. If you didn't, come and be shown off to.

*Hugh Thomas, My Future My Choice*  
*Polly Barnes, Director of Education,*  
*My Future My Choice*

# Friday 21 July

	Granger	Marlborough	Blaydon & Gibbs	Swan Room	Junior Lab	Senior Lab	
8.30 - 9.00							
9.00 - 9.30	<b>Registration &amp; Coffee</b>						
9.30 - 10.00	<b>Scoping Professionalism</b>	<b>Goats</b>	<b>Exploding Melons</b>	<b>First Steps in Digital Making</b>			
10.00 - 10.30							
10.30 - 11.00	<b>Coffee Break</b>						
11.00 - 11.30	<b>Science with Redcoats</b>	<b>Spreading the Word</b>	<b>Graphic Design</b>	<b>BIG Photo Booth</b>			
11.30 - 12.00							
15 min							
12.15 - 12.45	<b>Engaging Young Adults</b>	<b>Talk to Me, Community!</b>	<b>Reaching New Audiences</b>				
12.45 - 1.15							
1.15 - 1.45	<b>LUNCH</b>						
1.45 - 2.15							
2.00 - 2.30							
2.30 - 3.00							
3.00 - 3.30	<b>Normalising Science</b>	<b>PERFORM</b>	<b>Post-Truth Science Communication</b>		<b>Smart Saturday Science</b>		
3.30 - 4.00							
4.00 - 4.30	<b>Coffee Break</b>						
4.30 - 5.00	<b>ISTATOY &amp; Plenary</b>						
5.00 - 5.30							
5.30pm	<b>EVENT CLOSES... the designated pub for lingerers is posted at the welcome desk</b>						

## Scoping the Professionalisation of Public Engagement with STEM

**Granger • 9.30 - 10.30am**

Through the Scoping Professionalisation of Public Engagement with STEM (ScoPPES) project at the beginning of the year there was a widespread discussion about professionalising our sector: whether we should do it, how and what challenges we would face. Recommendations have been made to the National Forum (who funded ScoPPES). Come along to this interactive session to discuss the findings, recommendations and responses from the Forum. What will the next steps be? Helen Featherstone is an independent Public Engagement Consultant. Helen led this piece of work in collaboration with Professor Justin Dillon (University of Bristol) and Colin Johnson.

*Helen Featherstone, ScoPPES*

## Goats, Votes & Maths Misquotes

**Marlborough • 9.30 - 10.30am**

From TV game shows to General Elections we're forced to make choices. In this interactive show the science magician Dr Matt Pritchard will reveal how our brains can be easily tricked and what we can do to boost our critical thinking. Featuring psychological mind games and misleading maths. You'll never look at an advert the same way again!

*Matt Pritchard, Science Magic Shows*

## Exploding Melons on Channel 4's Live Cancer Telethon – How We Did it & How Do We Top it?

**Blaydon & Gibbs • 9.30 - 10.30am**

Last year we persuaded Channel 4 to feature science on their Stand Up To Cancer TV show, exposing our research to over 4 million people. In the first part of this session we'll share how we made the science come to life on live TV, the challenges we faced and some sneaky ways we overcame them. This year there's no TV show, so instead we're enlisting celebs to help engage our audience. We'd like to test our newest ideas and tap into the audience's creativity to develop engagement activities that can wow a celebrity.

*Amy Fawcett, Cancer Research UK  
Dr Samuel Godfrey, Research Information Manager, Cancer Research UK  
Fionnuala Ratcliffe, Research Engagement Manager, Cancer Research UK*

## First Steps in Digital Making

**Swan Room • 9.30 - 10.30am**

Don't know your GPIO from your Yippie-Ki-Yay? This session is for you. We'll guide you through some simple programming-the-physical-world exercises, exploring the point where code meets tangible objects. Then we'll offer some examples of where this sort of work leads, who's doing it, and why anybody thinks it's enjoyable, let alone important. Limited numbers, because we only have so many Raspberry Pis.

*Jonathan Sanderson, Northumbria University  
Joe Shimwell, Senior Lecturer/Primary Outreach, Northumbria University  
Chris Robbins, Grallator  
Dave Ansell, Freelance Exhibit Developer  
Olympia Brown, Senior Programme Manager, Raspberry Pi Foundation*

## Communicating Science with Redcoats

**Granger • 11am - 12pm**

Last year, along with many other well-known organisations and individuals, the Ri Young Scientist Centre team helped Butlin's holiday camps put on a series of 'Astonishing Science Weekenders'. This year the project moved on to training up redcoats with no scicomm experience (and sometimes little science knowledge) to deliver STEM workshops and drop in activities. Was this a good idea? Would it work? What were the gains (and losses) for the organisations involved? We will talk through what we did and what we learnt from the project before an open discussion around working with business.

*Dave Porter, The Royal Institution of Great Britain*

*Jemma Naumann, LYSC Workshop facilitator,*

*The Royal Institution of Great Britain*

*Joe Burton, LYSC Workshop facilitator,*

*The Royal Institution of Great Britain*

## Spreading the Word: Training Up the Next Generation

**Marlborough • 11am - 12pm**

Interested in developing young people into science ambassadors? Find out how Techniquet Glyndŵr, Dr Research and Durham University have helped young people develop and deliver their own STEM activities. Learn how to pass on presentation skills to young people from primary age to 6th form students, the art of being a successful mentor and take part in some of the activities yourself! Come along to this interactive session and group discussion focusing on training up the next generation of Science Communicators.

*Dawn Pavey, Techniquet Glyndŵr*

*Hannah Marubbi, Projects Administrator,*

*Techniquet Glyndŵr*

*Jenny Search, Project Officer, Dr Research and Institute of Physics*

*Dr Lorraine Coghill, Science Outreach Coordinator, Durham University*

## Getting Good Graphic Design

**Blaydon & Gibbs • 11am - 12pm**

A workshop of completely practical thoughts to help you get started with graphic design – if you want to do your own or you're commissioning from an agency/freelancer for the first time. From a science communicator who has also worked as graphic designer. We'll talk over the basic tools for DIY design (Photoshop/ Pixelmator, InDesign) but also when it's time to call in a designer or agency – and how to get the best results out of them with some knowledge of what they're looking for.

*Neil Monteiro, Freelance*

## BIG Photo Booth

**Swan Room • 11am - 1.00pm**

Make an appointment at the Welcome Desk to have a decent head and shoulders photo taken with our professional photographer in this session. Something to get you noticed and improve your career prospects. For your website, your LinkedIn page, or for your Gran. Small charge applies if you decide to keep the shots. Details on booking.



## Engaging Young Adults Outside Formal Education

**Granger • 12.15 - 1.15pm**

One of the most underserved audiences within science communication are young adults (14 - 30 years old) outside of formal education who are often seen as too difficult to reach with standard sci comm approaches and with efforts being “too late”. This discussion will share insights from a range of approaches working with this audience across different sectors ranging from youth work (Prince’s Trust, Girl Guiding) to cultural engagement (Voluntary Arts Scotland, Science Ceilidh) that can be adopted into STEM engagement. Experiences, issues and practical solutions will be pooled, and sharing of your own learnings and challenges encouraged!

*Lewis Hou, Voluntary Arts Scotland, Science Ceilidh*

*Sarah Cosgriff, STEM Learning and Development Manager, The Prince’s Trust*  
*Rebecca MacLennan, Peer Educator & Trainer, Girl Guiding*

*Paolo Arru, BSc Microbiology*

## How Can I Get my Community to Talk to Me? #sciroom

**Marlborough • 12.15 - 1.15pm**

Many groups are inspired by NCCPE’s ethos to strive towards three types of interaction in public engagement: informing (sending information to public), consulting (receiving information from public), and collaborating (working together). But how can we successfully achieve the last two? We created The Science Room to improve on that, combining an interactive style, community-led focus, and creative evaluation techniques. We’re going to discuss with you what’s worked for us (and what hasn’t), and ways we want to go forward with consulting, collaborating & interaction in the future, encouraging your thoughts & ideas in improving all community science projects.

*Jamal Kinsella, The Science Room*

*Olly Trojak, Technical Director, The Science Room*

## Reaching New Audiences by Understanding Them Better

**Blaydon & Gibbs • 12.15 - 1.15pm**

Wellcome is keen that people of all backgrounds should be able to engage with science on their own terms. Recent research that we have commissioned is helping us to understand the circumstances and motivators for the different audiences we’d like to reach. We’re using this research to inform how we engage with people and our approach to funding, including in our new Public Engagement Fund. The session will be an opportunity to find out about the results of the research, how we are responding to it and the work others are doing to broaden the reach of science engagement.

*Mat Hickman, Wellcome Trust*

*Amy Sanders, Strategy and Impact Manager*

*– Public Engagement, Wellcome Trust*

## Normalising Science in Informal & Formal Education

**Granger • 2.30 - 4pm**

“Science is just not for someone like me” is a phrase we would all like to change. In theory there are multitudes of ways to do this but in practice does any of it actually work?

4 individuals share their journeys through the muddy waters of promoting Science Capital, highlighting the successful and less successful ways of engaging the public in science before taking a step back and asking what are we actually hoping to achieve.

*Bethan Ross, Senior Audience Researcher, Science Museum Group*

*Dr Carol Davenport, Director, NUSTEM, Northumbria University*

*Andy Lloyd, Head of Special Projects, Centre for Life*

*Nichola Wallworth, STEM Ambassador Hub Manager – Trans-Pennine Region, Science Museum Group*

## **PERFORM, Performance Arts, Science, Young People and a Participatory Process**

**Marlborough • 2.30 - 4pm**

PERFORM investigates the effects of the use of performing arts in fostering young peoples' motivations and engagement with STEM in secondary schools in France, Spain and the UK. Come along to this performance based session, as we tussle with: Finding out what our youth think about science, representing what our youth told us with performing arts formats, helping our youth to tell their own STEM stories via the performing arts.

*David Price, Science Made Simple*  
*Helena Gonzalez Buron, Science Communicator, Big Van Theory*  
*Dr Oriol Marimon Garrido, International Project Manager, Big Van Theory*

## **Post-Truth Science Communication**

**Blaydon & Gibbs • 2.30 - 4pm**

Suddenly 'SciComm' seems more important. What could it do better and where is it going wrong? Ian Russell will present startling evidence that, for politically sensitive topics, greater scientific literacy actually correlates with INCREASED opposition to scientifically validated truth. On the other hand, how helpful is our informal emphasis on empathy and emotion, in an age where arguments about science are won by appeal to feelings rather than facts? And does SciComm too often marginalise 'curiosity' as little more than a valuable aid to 'learning'? So, how are we going to change the world? Plenty of time allowed for discussion.

*Ian Russell, Ian Russell Interactives*

## **Smart Saturday Science**

**Junior Lab • 2.30 - 4pm**

Credit card computers (Raspberry Pi and the simpler BBC Micro:bit) are enablers giving a new lease of life to projects.

This is a hands-on session using super simple-to-use Micro:bits on novel projects from Neil's Saturday Science books.

We'll demonstrate some of the projects that we've developed which you can tinker to perfection. Vacuum engines, magic party popper blasters, molecular mass meters, panjandrums...

Then you'll form teams. We'll give each team a functioning Micro:bit headed Electric Worm. To make them go faster and win the race, you'll need to fettle the hardware and tweak the software. If possible bring your laptop.

*Neil and Di Downie, Air Products*

## **I Saw This and Thought of You**

**Granger • 4.30 - 5.30pm**

A medley of miscellaneous presentations from anyone who has a little something to share with the BIG community. This is where all the odds-and-sods of ideas go: whether you bring a thing along or a thing springs to mind during the Event, ISTATOY is your soapbox. Each presentation is a 2-minute (max!) nugget of information: a question, a hint, a tip, a rant... over the years we've had demos, songs, book recommendations, poetry, film, and more. But we haven't had whatever you're itching to share. Not yet. Sign up through the event, or let Jonathan know.

*Jonathan Sanderson, Northumbria University You!*

# BIG's 21st birthday

**Saturday 2nd September 2017**

**The Observatory Science Centre,  
Herstmonceux, Hailsham**



To celebrate our big birthday, BIG is holding a party in our ancestral home of Herstmonceux. Although BIG was established 25 years ago, what we now call the 'BIG Event' didn't begin until a few years later and for many years, the BIG Event was held in Herstmonceux. So, we will return for our 21st birthday party to enjoy one another's company, chat about the good old (or new) days and eat cake.

Join us on Saturday 2nd September only or come for the weekend and to also enjoy The Observatory Science Centre and Astronomy Festival activities from 1-3 September.

Overnight camping is FREE, but booking through BIG is required. And if camping is not your thing, there is accommodation at nearby Bader Castle (£22-£38 per night).

Prices will vary depending on how long you stay, but weekend tickets are £40 (child £30) or each session is £10 (child £7.50) (1 session on Friday, 2 sessions on Saturday and 1 session on Sunday).

We encourage you to bring your kids and families. There will be plenty to do as part of the Astronomy Festival and in the Observatory Science Centre.



**See [www.big.uk.com/Birthday](http://www.big.uk.com/Birthday) for more details and to book.  
Places are limited, so be quick!**

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