



STEM COMMUNICATORS NETWORK



# BIG Event

## 20-22 July 2016

**W5 Science Discovery Centre, Belfast**

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

## PROGRAMME

# Welcome from BIG's Chair

Welcome to the BIG Event!

This is our 20th event and the first time many of us have crossed the sea to attend.

As ever the first task is to decide which of the many wonderful sessions you will have to miss whilst attending and contributing to others. Exploring gender bias, recruitment, TED secrets and avoiding being funny all await you. The programme contains the usual mix of hands-on workshops, science shows and discussion sessions – huge thanks to all those who have given their time to run events. BIG is all about sharing and this annual shebang is always a reminder to me of the many, many creative and talented people I have the opportunity to work alongside. People who are happy to share their successes and failures for the greater good.

We're pleased to be visiting the Belfast Harbour Office on Thursday night for our dinner – the Harbour Commission isn't a usual venue for this kind of thing – they only open their doors to support worthy causes and so I'm delighted to have BIG's aims recognised as such.

Huge thanks to our hosts W5 who bring us new experiences in an historic and regional context. The centre, as you will see is vast – loads of space to get experimental over the few days and I'm told we might even be able to have a bit of a climb at a designated time on Thursday before the Best Demo Competition.

The shipyard that gave the world Titanic is just an ice cube's throw from the venue and I hope that you will find time to take the short walk over the river to see a little more of the city. I understand the local reference to the Titanic is 'It was fine when it left us'.

I do hope that you will all be better when you leave us than when you arrived.

**James Piercy**  
**Chair**



## A little bit of a thank you

Working with W5 over the year to put the BIG Event together has been a real pleasure, and an absolute breeze. Staff have been eager to share the Event with their network of contacts – shown by the great number of new delegates from NI and RoI – and everyone has been eager to chip in with session content, ideas and offers of kit.

Thanks to Judith Harvey, Kelly Kinsley-Smith, Sean Greer, Matt Craig and Alyson Kerr in particular, but everyone who has made the BIG Event a decent party.

# 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.



Bridget Holligan  
Vice Chair



Lucy Moorcraft  
Treasurer



Ben Craven  
Secretary



James Soper  
Ordinary Member



Cordelia Spalding  
Ordinary Member



Sarah Vining  
Administrator



Rachel Mason  
Event Organiser

## Josh Award

The Josh Award is an award established to recognise and support up-and-coming talent in science communication. 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.

This year's winner Katie Steckles will tell us more about it during the Best Demo Competition, what she's doing and where it is taking her.

[www.big.uk.com/josh](http://www.big.uk.com/josh)

## FAQ

**Q: Any tips on getting around Belfast?**

**A:** Belfast has lots of taxis and you can dial a cab from the yellow phone outside the front of the Odyssey building (at the Horseshoe). W5 is 5-10 min taxi ride to the airport or across the river in to the city. Or you could hire a bike for a few days. Register at [belfastbikes.co.uk](http://belfastbikes.co.uk) – you can pick up and drop off your bike at hundreds of racks around the city, including outside W5 and the Harbour Office.

**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 Dirty Onion, Hill Street, BT1 2LA** from around 6.30pm. This is not a closed event but a named bar to gather at, with plenty of room for everyone. It's Harp Club on a Wednesday. The bar does not serve food but there is YardBird upstairs, and plenty of other places to eat just a short stroll away.

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

**A:** You **DO DO DO** need a ticket, it is in your delegate folder. If you haven't got one and think you should have please visit the Welcome Desk. The dinner takes place at **Belfast Harbour Office, Corporation Square, BT1 3AG**, a 20 min walk across the river via the footbridge. Drinks at 7.30pm, dinner at 8pm until 10pm. After that, your evening is your own.

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

**A:** The Best Demo Competition will take place following afternoon refreshments on Thursday 21 July, starting at around 4.30-4.45pm.

Competitors are lined up in advance but we may have a little place or two for late-comers this year. Visit the Welcome Desk if you feel the urge to jump in...

**Q: Is there WI-FI access?**

**A:** There is. **W5-WiFi**

**Q: Social networking** – how can I use it for the Event?

**A:** If you take any decent photos, we would love you please to add them to BIG's Facebook pages or email them to [admin@big.uk.com](mailto:admin@big.uk.com). If you are tweeting, please use the hashtag **#bigevent16** Session conveners will announce if a session should not be reported on, so we ask you to respect this.

**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.

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

**A:** So as to avoid missing out anyone who registered late, we produce it late. You can pick one up at reception.

Please regularly visit us at the reception 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**

# Wednesday 20 July

	Lecture Theatre	Seminar Room 1+2	Seminar Room 3+4	Lab	The Point
10.00 - 1.00	<b>W5 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 in the FOYER</b>				
3.30 - 4.00	<b>It's in My Eyes</b>	<b>You are Biased</b>	<b>Engaging Global STEM</b>	<b>UWE BoxEd</b>	<b>Screens as Exhibits</b>
4.00 - 4.30					
4.30 - 5.00					
5.00 - 5.30					
6.30pm onwards	<b>Meet for drinks &amp; music – The Dirty Onion, Hill St, BT1 2LA</b>				

## Welcome

### 1.15pm • Lecture Theatre

Every year we like to start off all together, set the scene, let you know where things are happening and when. We'll let you know about any changes to the programme and introduce you to the people who can help you during the Event. We also like to meet our hosts and find out more about where we will be spending the next few days.

*James Piercy, BIG Chair*  
*Judith Harvey, Head of Education and Public Affairs, Odyssey Trust*

## The BIG Event Mingle

### 1.45 - 3.00pm • Foyer

The BIG Mingle is one of the first sessions at the BIG Event and is a chance for people to meet each other. It's like speed dating in small groups. The people in each group will very quickly introduce themselves to each other, then we'll form new groups and do it again, and so on...all cunningly arranged so that you never meet the same person twice.

Please bring something along that you can show to people in your groups. It might be a 30-second demo, a curious object, a teacher pack that you've produced – it really doesn't matter, as long as it's very quick and might be interesting to other BIG eventers. No originality is expected, and don't fret if you really can't think of anything.

*Ben Craven, BIG Secretary*

## 'It's in my eyes!' Performance Lighting 101

**3.30 - 5.30pm • Lecture Theatre**

Many BIG members perform science shows, from mobile shows in a suitcase and YouTube videos, to large performances with thousands of people. Whatever the scale, there are ways to enhance the experience of the audience through lighting and stage design. This is for everyone, and will cover the effects of leaving the curtains in a school hall open to helpful tips on using a full theatre rig.

Part1: Basics of lighting and set design. Part 2: Practical tips, useful hacks and handy kit. Looking for contributions/input – particularly if you live in Belfast and have theatrical lighting kit!

*Duncan Yellowlees, The Centre for Life*  
*Jonathan Sanderson, Think Physics,*  
*Northumbria University*

## You are Biased: Improving Gender Balance in STEM Communication

**3.30 – 4.30pm • Seminar Room 1+2**

You are biased, but then again we all are. This is a chance to look into how unconscious biases and the subtleties of gender stereotyping can affect our audiences' perceptions and experiences of science. We will discuss methods for more inclusive participation and how to combat the effects of bias in interactions with people. Session includes a chance to play gender bias bingo, determine what your own biases are, recognising them in yourself and in your audience and how to deliver presentations that reduce the effect of gender stereotyping. Become more aware and help your audience take the message forward.

*Charlotte Govan Improving Gender Balance*  
*Project Officer Scotland, Institute of Physics*  
*Esther Mander, Improving Gender Balance*  
*Project Officer, Institute of Physics*

## Engaging Global STEM Activities for you to Use in your Programme

**3.30 - 5.30pm • Seminar Room 3+4**

This hands on workshop from Practical Action will give you plenty of ideas for activities you can incorporate into your own programmes. Yes, we just give our ideas and resources away and are delighted when other organisations use them!! Flexible enough to be used in schools or in venues such as science centres and museums our award winning STEM challenges get young people thinking how science and technology can be used to solve global problems, then designing and testing models of their own solutions. All support materials including PowerPoints, videos and certificates are free.

Have a peak at [www.practicalaction.org/stem](http://www.practicalaction.org/stem).  
*Julie Brown, Practical Action*  
*Bren Hellier, Education Officer, Practical Action*

## UWE BoxED: Bringing University Research into Schools

**3.30 - 4.30pm • Lab**

UWE BoxED is a STEM focused program of outreach activities based in the South West which aims to take exciting, breakthrough university research into the classroom. Find out what our leading scientists and engineers are discovering and how we translate that into digestible and stimulating workshops for school pupils aged 11-16. This workshop aims to cover some of the problems we have faced in this journey, and the ways to overcome them. We hope to bring some hands-on activities to the session and get you stuck in with what we're doing!

*Katherine Bourne, University of the West of England*  
*Dr. Debbie Lewis, Outreach Project Coordinator*  
*University of the West of England*



## Screens as Exhibits: Everything you can do with a TV screen in your Exhibition Space

**3.30 - 4.30pm • The Point**

We have lately discovered that if you hang a TV screen in an exhibition floor it can be so many different things! There is lots of software that can be used for really engaging exhibits, and at worst we put a static image up and voila a poster. We have also experimented with Touch Screens, Kinect, Leap Motion and Webcams to get a bit more interactivity. In the fast paced world of technology we know there are many more options that we haven't thought of yet, join us for a discussion and share your ideas/experiences.

*Alyce Paton, Camera Obscura & World of Illusions*

*Christopher Hudson, Planetarium Supervisor, International Centre for Life*  
*Gemma Milne Ogilvy*

## Recruitment: Finding the Right People/Being the Right Person

**4.30 - 5.30pm • The Point**

It takes a special sort of someone to be a guide/explainer/presenter/science communicator. But how do you recruit for them? Come along to this knowledge-sharing session as we discuss; where to advertise for candidates, what sort of questions to ask in interviews, the merits of asking candidates to prepare a piece in advance, and the differences when taking on volunteers. For job seekers we will also ask; What do recruiters look for in a CV and what makes an application stand out in this ever more competitive field?

*Alyce Paton, Camera Obscura & World of Illusions*  
*Bridget Holligan, Director of Education and Engagement, Science Oxford*  
*Roisin Murray, HR Manager, Odyssey Trust (W5)*



## After Hours Wednesday...

**6.30pm onwards**

**The Dirty Onion, Hill Street, BT1 2LA**

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.

This is a chance for any local members to join us who couldn't make it to the conference and of course anyone else who fancies it. Spread the word to local folks. Get them along.

Music at The Dirty Onion on a Wednesday is all harps, and although food is not served in the bar, there is Yard Bird upstairs for those who like their chickens whole or half and served with chicken. There are plenty of other places to eat nearby though.

Food and drink at your own cost tonight.

# Thursday 21 July

	Lecture Theatre	Seminar Room 1+2	Seminar Room 3+4	Lab	Creativity Lab		
8.30 - 9.00	<b>COFFEE in the FOYER</b>						
9.00 - 9.30	<b>Hearts On</b>	Learning from Ted		<b>Silent Signal</b>			
9.30 - 10.00			All About Microbes		Go Berserk		
10.00 - 10.30							
10.30 - 11.00	<b>COFFEE in the FOYER</b>						
11.00 - 11.30	<b>Airmazing Engineering</b>	<b>Science in Drama</b>		<b>Life on Mars</b>	Little Sparks		
11.30 - 12.00							
12.00 - 12.30			Scaling Up & Down				
12.30 - 1.00							
1.00 - 1.30	<b>LUNCH in the FOYER</b>						
1.30 - 2.00						<b>BIG AGM 1.30pm</b>	
2.00 - 2.30							
2.30 - 3.00							
3.00 - 3.30	How not to Be Funny	<b>Evaluating Evaluation</b>	<b>Gunge for Grown-Ups</b>	<b>Life Through a Lens</b>			
3.30 - 4.00							
4.00 - 4.30	Best Demo Comp Set-up (closed session)						
4.00 - 4.30	<b>COFFEE and snacks to tide you over to dinner in the FOYER</b>						
4.30 - 5.00	<b>BEST DEMO COMPETITION</b>						
5.00 - 5.30							
5.30 - 6.00							
7.30 - 10ish	<b>Dinner at The Belfast Harbour Office, Corporation Square, BT1 3AJ</b>						



## Hearts on Science

**9.00 - 10.30am • Lecture Theatre**

Ever fell in love with a demo/exhibit/science story? We have and we really want to share them with you! We want to reveal some of the tools of our trade and place them (and their presenters) within a context of passionate successful or indeed unsuccessful sci com situations! We would love to meet you in this session and share some options for the use of demos, exhibits and story lines, within your own fields

*David Price, Science Made Simple*  
*Elli Wright, Public Engagement Manager, Liverpool School of Tropical Medicine*  
*Anna Gunnarson, Pedagog and Trainer, Navet Science Centre Sweden*  
*Jules Pottle Storytelling Schools Trainer Winner 2016 Primary Science Teacher of the Year*

## Learning from TED

**9.00 - 10.00am • Seminar Room 1+2**

We all have our favourite TED talk but what lessons can we learn from the TED organisation? James Soper has studied not just 100s of the talks themselves but the way TED produces their events. This session will explore TED secrets that everyone involved in presenting will find invaluable. It will cover such subjects as the 'TED Ten Commandments', subject selection, coaching, rehearsal, timings, stage set up, stage presence and the effective use of AV.

*James Soper, Science Shows for Schools*

## All about Microbes – from the Microbiome to Anti-Microbial Resistance

**9.30 - 10.30am • Seminar Room 3+4**

All about Microbes will showcase “outside the classroom” tools for bringing the microbiome to the public. We will have ‘Alimentary Adventures’ – our giant inflatable walkthrough gut – on site as well as apps such as ‘My Gut Feeling’. We will also ask Can we train our microbiome? (the impact of exercise) and discuss activities to create awareness of the growing problem of Antimicrobial Resistance.

*Dr Catherine Buckley, APC Microbiome Institute, University College Cork*  
*Dr Orla O’Sullivan, SIRG Reseach Fellow Teagasc Food Research Centre*

## Silent Signal

**9.00 - 10.30am • Lab**

Silent Signal is a set of six new animations produced by Animate Projects through collaborations between artists and biomedical scientists covering the topics of genetics, cell biology, immunology and epidemiology. In this session participants will be able try out and take away some of the workshop activities devised to go along with the animations. Have a go at Infection Scenarios with Cell Top Trumps cards, simulate the way in which vaccinations help to stop disease spreading, learn about the malaria cycle and take part in a game that stimulates debate about the social and ethical implications of genetically altering behaviour.

*Gillian Pearson, Education Consultant, Silent Signal for Animate Projects*  
*Bentley Crudgington, Scientific Adviser, Silent Signal for Animate Projects, Imperial College London*

## Go Berserk! with Tech Know Clubs Coding Workshop

**9.30am - 10.30am • Creativity Lab**

Fancy a “bit” of coding? This workshop challenges the idea that there is a magical age range, somewhere between 14–25, in which you must begin coding or forever let fear of coding dominate your destiny. W5, Go Berserk! and Allstate would like to share experience gained from our Tech Know Clubs programme which invited children as young as 9 years old to try html, but we would also like to hear from those of you who have tried similar coding clubs. After sharing we will take some time to explore Go Berserk’s! “making websites” illustrated book and try coding.

*Matt Craig, W5*

*Ian Simons, Go Berserk! Author Stranmillis University*

*James Bryant, Demonstrator, W5*

## Air-mazing! Engineering the future with Pneumatics

**11.00 - 12 or even 1.00pm • Lecture Theatre**

James Soper will perform a 45 min version of this physics and chemistry show that has toured the world. The show is made up of presenter demos, volunteer interaction and an accompanying multimedia presentation. James will lead a discussion and field questions on how the show was conceived, putting demos into strong concepts, effective use of volunteers and questions, and embedding multimedia into our presentations.

*James Soper, Science Shows for Schools*

## Science in Drama – an Interactive Theatre Workshop

**11.00 - 1.00pm • Seminar 1+2**

Writers and dramatists have long been attracted to science, finding rich material in the clash of ideas, personality and belief. For many this can be a way to approach science not as a list of facts but as a set of interesting and challenging ideas. This interactive session will explore the fertile ground where drama and science overlap by first engaging participants

in a fun and light-hearted drama workshop before splitting into groups and working on selected readings from science-themed literature. After brief, pressure-free presentations we’ll finish by discussing the value and success of such an approach. No experience required.

*Sean Greer, W5*

## Scaling Up & Down to Suit the Audience

**12.00 - 1.00pm • Seminar Room 3+4**

What happens to your workshop, show or discussion if the group you are working with is bigger than expected? What if it’s smaller? At Science Oxford we are finding we need to do this more and more but don’t always feel we have the skills or resources to do it as well as we’d like. This knowledge-sharing session will provide a forum for discussion, where we will exchange experiences and ideas to help us adapt our work. Come along if you have successes and failures to tell us about. Come along if you want to learn more about planning for groups of unexpected sizes.

*Ian Snell, Science Oxford*

*Cathy Sturrock, Science Oxford*

## Life on Mars Workshop – Coding & Chemistry combined

**11.00 - 1.00pm • Lab**

A new workshop developed by UCLan and Ri Young Scientist Centre with UK Space Agency funding. We would like to deliver some excerpts from the workshop showing how it combines coding with chemistry. Participants would use a simple programming language get Lego Mindstorms robot rovers to collect soil samples and send them to the laboratory for analysis. We will also describe some of the challenges in combining so many elements in a single workshop and provide an opportunity to discuss how others attempt to solve this perennial problem.

*Dave Porter, The Royal Institution, Young Scientist Centre*

*Dr Liz Granger, UCLan and Ri Young Scientist Centre Manager University of Central Lancashire*

*Dr Liz Coates, L’Oréal Young Scientist Centre Technical Coordinator The Royal Institution*

*Jemma Naumann, L’Oréal Young Scientist Centre Technician The Royal Institution*

## Little Sparks!

### 11.00 - 12.00pm • Creativity Lab

Designed to inspire young minds, W5 has established a successful and progressive public Early Years programme called Little Sparks. Once a month, W5 invites children aged 18 mth-4 yrs old to participate in a themed workshop just for them. Whether it's learning about woodland creatures or making lots of noise, it's hands-on and imaginative fun for all. Currently in its second year and continuing to expand, join us for some insight into the importance of the programme for both families and W5 and the journey of its development. Try your hand at some sample activities designed to engage our youngest scientists and inspire their interest for the future. Why not share your ideas and experience too!

*Alyson Kerr, W5*

## BIG AGM

### 1.15 - 2.00pm • Lecture Theatre

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 in the future.

*The BIG Executive Committee*

## Best Demo set-up

### 3.00 - 4.00pm • Lecture Theatre

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.

*By appointment, Ben Craven*

## How Not to be Funny

### 2.30 - 3.30pm • Seminar Room 1+2

Someone once said talking about comedy in science shows was like dissecting a frog – no-one laughs... but you do learn a lot about amphibian anatomy. Join a failed stand-up, an accidental clown and a pedantic man with more books on humour than anyone in the known world, as they discuss how unfunny they really are. What can you do to guarantee an audience giggle? Is there such a thing as a bad joke? Are we too silly? All welcome... we promise we won't laugh.

*Paul McCrory, Director, Learn Differently Ltd  
Debbie Syrop, STEM communicator, Science Made Simple*

*Dr Matt Pritchard, Science Magician, Science Magic Shows*



## Evaluating Evaluation: A Hack Session

**2.30 - 4.00pm • Seminar Room 3+4**

This skill-share session is aimed at pooling together some of BIG's collective experience in science communication evaluation. We'll be asking questions like how you can capture meaningful evaluation from audiences (from adults to children with additional support needs) in drop-in sessions, assemblies & everything in-between, what to ask in questionnaires (& how to get people to fill them in!) & what are funding bodies and institutions really looking for in your evaluations? This will be a hands-on group session geared towards practical advice, with all suggestions and flagged-up resources collated into an online wiki after the session.

*Lewis Hou, Science Ceilidh, University of Edinburgh*

*Sarah Bearchell, Sarah's Adventure in Science*

*Dominic Galliano, SEPNet*

*Rebecca Hurwitz, Graphic Science*

## Gunge for Grown-Ups

**3.00 - 4.00pm • Lab**

Adults often want to have a go with hands-on science, but don't want to get in the way of the children. So we decided to kick the kids out and create workshops just for them! Come along, have a go yourself and chat about your experiences of what does and doesn't work for adult workshops.

*Luiza Patorski, Science Oxford*

*Cathy Sturrock, Head of Education, Science Oxford*

## Life Through a Lens: Using Theatre and Emerging Lens Technology to Bring Microscopy to All

**2.30 - 4.00pm • Creativity Lab**

A fun workshop to show you the tools we use to make microscopy more accessible: a bit of theatre & storytelling, how to use emerging new lenses, and maybe a lens to take home! Microscopy is a brilliant way to engage the public, but microscopes are heavy, fragile and expensive. However, a small clip-on lens can turn any camera/tablet into an excellent macro-level microscope. The EnLightenment project worked with schools to produce great platform microscopes, which turn your camera into a compound microscope for viewing slides. This is emerging technology, we'll share with you the highs and pitfalls.

*Sarah Keer-Keer, Public Engagement Manager, Wellcome Trust Centre for Cell Biology*

*University of Edinburgh*

*Maria Fanourgaki, Science Communicator,*

*Wellcome Trust Centre for Cell Biology,*

*University of Edinburgh*

*Laura Wicks, Public Engagement Coordinator,*

*Heriot-Watt University*

## The Best Demo Competition

**4.30/4.45 - 6.00pm • Lecture Theatre**

Our Best Demo Competition is a line-up of BIG members competing for one of the least valuable and yet most highly prized honours in UK science communication.

And on to the judging...



## After Hours Thursday...

### Dinner & drinks

**7.30 - 10ish • Belfast Harbour Office,  
Corporation Square, BT1 3AG**

There's enough time to pop to your hotel to change if you're that way inclined, or take in a few Belfast sites if you're happy with your wardrobe choice. The Harbour Office is a twenty-minute stroll over the river from W5; just long enough to develop your appetite and thrash out which demo was best, how to decide, complain that you didn't enter and had something worthwhile all along,

Have a drink, cast your votes...

### After dinner speaker

*Linda Conlon, Chief Executive, International Centre for Life; President ASTC*

It is easy to fixate on local or national events when thinking about our own professional futures, but there are bigger global issues that transcend these. Known as "Megatrends", these major shifts in environmental, social and economic conditions will substantially change the way people live and work. Linda will look at some of the biggest megatrends, and consider how these will influence science communication over the next 50 years.

### Best Demo winners...

- 1997 Wendy Sadler
- 1998 Derek Fish
- 1999 Chris Norton
- 2000 Gillian Pearson
- 2001 Gillian Pearson
- 2002 James Piercy
- 2003 Sue 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 Could this be you?

# Friday 22 July

	Lecture Theatre	Seminar Room 1+2	Seminar Room 3+4	Lab	The Point
8.30 - 9.00	<b>COFFEE in the FOYER</b>				
9.00 - 9.30	<b>Demo Direction</b>	Adapting for Age Groups		Go Fly Your Kite	
9.30 - 10.00			Burger Apocalypse		Setting Up as a Freelancer
10.00 - 10.30					
10.30 - 11.00					
11.00 - 11.30	<b>COFFEE in the FOYER</b>				
11.30 - 12.00	20 Tips for Websites	Organising Chaos	Science Storytelling	Repeated Interaction	We Would Say That
12.00 - 12.30					
12.30 - 1.30	<b>LUNCH in the FOYER</b>				
1.30 - 2.00	<b>Dragons</b>	Going Big	Scouts, Guides & Elflins		Stuff This 'Sci-Comm'
2.00 - 2.30					
2.30 - 3.00					
3.00 - 3.30	<b>COFFEE in the FOYER</b>				
3.30 - 4.00	ISTATOY	Diamond Hunt	Exploring Physics		
4.00 - 4.30					
4.30 - 5.00	<b>Plenary</b>				
5.30pm onwards	<b>The designated pub for lingerers is posted at the welcome desk</b>				

## Demo Direction

**9.00 - 11.00am • Lecture Theatre**

Many people write, design and perform shows without a formal director in place. The role is different to that of a performer; it requires different skills, techniques and mind-set. Working with or as a director is one of the best ways to improve your performances. This workshop gives a sense of what it means to work as a director; what would you do if given a performer of unlimited range and a science demonstration to direct? What do you need to watch for in performances? What are the factors effecting a performance and how can you alter them?

*Duncan Yellowlees, Centre for Life*

## Adapting Workshops for Different Age Groups

**9.00 - 10.00am • Seminar Room 1+2**

At the Young Scientists Centres at the Ri and in UCLan we are often asked to adapt our workshops for age groups outside of those it was originally designed for. Sometimes this requires a simple shift of emphasis or terminology sometimes a revamp and new hands on exercises. We would like to share our judgement calls on this and then collect and share others key tips when adapting interactive work to be accessible to wide age ranges.

*David Porter, L'Oréal Young Scientist Centre Manager, The Royal Institution*

*Dr Liz Granger, UCLan and Ri Young Scientist Centre Manager, University of Central Lancaster*

*Dr Liz Coates, L'Oréal Young Scientist Centre Technical Coordinator, The Royal Institution*

## The Burger Apocalypse

**10.00 - 11.00am • Seminar Room 3+4**

This highly participative session will explore the environmental impacts of our food – around 20% of the UK's carbon footprint. Attendees will learn about the A-B-C of low carbon eating: AVOID wasting food, BUY in-season food and CHOOSE low carbon food more. This is Tony's newest session, which has been trialled with school groups and at the Winchester Science Festival in 2015. Tony will run the session as a 45-minute show and then have a short discussion on the pros and cons of this style of session.

*Dr Tony Curran, University of Southampton*

## Go Fly Your Kite

**9.00 - 10.00am • Lab**

It's very simple... come and make some kites with us. Do a little about the history of flight and how they fly, design and make your own kite, find out about what we do. Go Fly Your Kite is a young business running STEM Kite Design workshops throughout the British Isles for KS1 & 2 and for youth clubs, councils, fun days, corporate events and parties.

*George Ellis, Go Fly Your Kite*

## Setting Up as a Freelancer

**10.00 - 11.00am • The Point**

This session will look at the nuts and bolts of setting up as a freelancer. James Soper and Ken Farquhar have been working as freelancers for more than 20 years each and they will take you through practical issues (accounts, tax, VAT, advertising, pricing and insurance) and the more human issues (working styles and why you might or might not want to take the plunge). The session will be responsive to the audience, so bring your questions, concerns and experiences if you want to share; together we will explore this most thrilling way to earn a living.

*James Soper, Science Shows for Schools  
Ken Farquhar, The Inspirational Science Theatre Company*



## 20 Tips for Sci-Comm Websites

**11.30am - 12.30pm • Lecture Theatre**

A session of completely practical advice from a science communicator who has just finished working as a designer and web developer. If you need help setting up a website, either yourself or with a developer, this session should include insights unique to the sci-comm world and save you time and/or money later on. We'll cover the basic web services (Wix, Squarespace, Wordpress), how to work with agencies, and how large scale web development and design works. Plus, where to go if you want to learn more.

*Neil Monteiro, Science Theatre*

## Organising Chaos: Running Workshops with Lots of Equipment and Enthusiastic Participants!

**11.30am - 12.30pm • Seminar Room 1 +2**

A knowledge-sharing session that begins with a mini workshop to help explore the techniques, tips, and experiences of running workshops that involve a lot of equipment and enthusiasm from the participants! From presenter-led to carousel-style, set dressing to classroom techniques, clean-up time to reusable equipment. We'll cover everything we can! Preparation is key, but we've all been caught off guard by some occurrence. Let's learn from each other's mistakes and successes. I am looking for other people to contribute to this session with examples of best and worst practice!

*Ruth Perkins, science made simple*  
*Naomi Foster, Public Engagement Officer, International Centre for Life*

## Science Storytelling

**11.30am - 12.30pm • Seminar Room 3+4**

Every culture tells and shares stories to entertain, educate, preserve culture and establish moral values. By telling some of science's stories, we can widen awareness of science as an important aspect of culture, increasing accessibility and removing barriers to discussion. We brought together scientists and storyteller in a successful science storytelling event for grown-ups combining humorous personal anecdotes, informative historical characters, traditional stories and an explosion. Can storytelling-style narrative be used by researchers communicating with non-specialists? Can story be used to teach scientific concepts? Can we find science in traditional tales and use these to attract new audiences?

*Abi Ashton, Institute of Physics Wales*

## Repeated Interaction Engineering Outreach Programme

**11.30am - 12.30pm • Lab**

We will be using the activities from a repeated interaction engineering programme to share ideas, discuss issues and test out some of the kit. People attending this session can find out about how we get schools to sign up, how we've set up the programme, how we design activities to be low cost and how the activities work. You can test out some of the activities, take away copies of the programme/ideas and who knows, maybe our schools could compete against your schools one day in the future!! Be prepared for interaction, hands-on and team work!

*Dr Kerry Jaine Baker, University of Leeds*  
*Shauni Sanderson, STEM Special Projects Officer Educational Engagement, University of Leeds*

## We Would Say That, Wouldn't We?

**11.30am - 12.30pm • The Point**

One motivation for STEM communication is encouraging more people to take up science and technology careers, and promoting the value of science research. This is based on the widespread view that more and faster scientific and technical innovation is to the benefit of mankind. But is our attitude biased because we happen to be STEM enthusiasts? Does history back us up? After all, many technological developments that seemed like a good idea at the time have come back to bite us. Please join me as I present a heretical viewpoint and we'll explore the thinking.

*Ben Craven, [benraven.org.uk](http://benraven.org.uk)*

## The Science of Dragons Show

**1.30 - 3.00pm • Mingle Space**

Join Scientific Sue on this most historical and creative journey of discovery. Her fire and icy fog breathing dragons are celebrating the hatching of their latest baby, there is just one problem this little dragon doesn't have any wings yet! Lots of volunteers are needed to help Sue investigate and explore the science of how dragons fly; the science behind different fire types (steam, icy fog, explosive gases, flammable liquids and of course big flames and tornado type fire!) and thus engineer a way which will allow the baby dragon to fly and join in with the celebrations!

*Susan McGrath, [Science2Life](http://Science2Life)*

## Going Big: The Challenges and Rewards of Large-scale Demonstrations

**1.30 - 2.30pm • Seminar Room 1+2**

Michael Faraday's lectures in the Royal Institution relied on demonstrations that fit on a table; while elegantly built and explained, demonstrations still have a central place but modern audiences expect more. We've had to embark on ambitious projects like playing Tetris on the side of a building, sending our lecturer on a zero-g flight, and writing a message to the space station in a field.

Big stunts can be high-risk and high-reward, and create opportunities to forge partnerships. In this session I'll draw on my experience with the 2015 lectures to discuss the opportunities, pitfalls, and logistics of realising large-scale stunts. Bring along your stories of success and failure, as well as tips and tricks for keeping organised enough to pull it off.

*Jon Farrow, Public Programme Producer, Royal Institution*

## Working with Scouts, Guides, Woodland Elfs...

**1.30 - 3.00pm • Seminar Room 3+4**

Our experience shows that children are incredibly open to STEM activities at out-of-school clubs. We'll be sharing how to tailor projects for different age groups under a range of time and resource constraints. Then you can get hands-on with some of our successful experiments. You'll leave the session with the confidence to approach a local group armed with working activities.

*Sarah Beachell, Sarah's Adventures in Science  
Jon Wood, Science Presenter, Jon Wood Science  
Naomi Foster, Public Engagement Officer,  
Centre for Life*

*Sam Durbin, Clothworkers' Associate in  
Mathematics, Royal Institution  
Anna Aldred, Research Student, Durham  
University*

## Stuff this 'Science Communication'!

**1.30 - 3.00pm • The Point Boardroom**

What are we supposed to be doing? How are we supposed to be doing it? And WHY? There will be several, short, deliberately controversial presentations, each followed by discussion. Ian Russell is disturbed by the curiosity-crushing didacticism of science shows and interactive exhibits where each demo is to show a principle and no experience is valid until 'explained'.

Duncan Yellowlees shows how the arts do things differently. Paul McCrory will expose his love-hate relationship with educational research in relation to science communication.

*Ian Russell, Interactive Science Ltd*

*Duncan Yellowlees, Public Engagement Officer, Centre for Life*

*Paul McCrory, Director, Learn Differently Ltd*

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

**3.30 - 4.30pm • Lecture Theatre**

ISTATOY is a medley of miscellaneous 2-minute 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 at the BIG Event. Bring it along and let it out or just lurk in the audience and soak it up. Each presentation is a little nugget of information, a question, a knack for doing a thing, or a tip-off of an excellent supplier that we'd all find it handy to know about. In the past we've had demos, songs, book recommendations, conjuring tricks, rants, and even advice on hand-drying techniques. The only essentials are that each contribution must be no more than 2 minutes long, and safe.

Apart from that, do anything you like that you think we'll enjoy. There are no prizes and no pressure. If you want to contribute, please let Ben Craven know.

## Diamond Hunt: a Virtual Tour/ Treasure Hunt Around the UK's Synchrotron Light Source

**3.30 - 4.30pm • Seminar Room 1+2**

Diamond Light Source is the UK's synchrotron light source. We use a large particle accelerator to produce x-rays 10 billion times brighter than the sun and use them to study matter researching everything from new medicines and treatments for disease to innovative engineering and cutting-edge technology. Would you like a look round? We want you to take a live tour of the facility, solving clues to tell our remote cameraman where to go next. We will also tell you about the public outreach that Diamond does and look at ways in which we could work together.

*David Price, Diamond Light Source*

## Exploring Physics: Using Creativity and Sport to Discuss STEM

**3.30 - 4.30pm • Seminar Room 3+4**

A lack of students engaged in physics and applied maths is an increasing obstacle for the growth and promotion of research areas such as photonics and electronics. Can the use of non-formal workshops on everyday topics such as sport or movies be a way to overcome this engagement barrier? This session will involve a panel of active science communicators providing hands-on case study experience of communicating physics and science through mediums of creative arts, improvisation and sport amongst others, whilst also leading the audience through exercises designed to spark dialogue.

*Karen McCarthy, Irish Photonic Integration*

*Centre (IPIC), Tyndall National Institute*

*Dr Karen McCarthy, Public Engagement &*

*Outreach Manager, Irish Photonic Integration*

*Centre (IPIC), Tyndall National Institute*

*Dr Niamh Shaw, STEAM Artist-Performer-*

*Communicator, Independent STEAM facilitator*

*Dr Taj Bhutta, School Support Manager,*

*Institute of Physics*

## Plenary

4.30 – 5.00pm • Lecture Theatre

We don't normally put a plenary session in at the end of the BIG Event, but as many of you have said you thought it would be useful, we have. The session is designed to finish earlier than timetabled, but you know the time is in there for you to ask those last minute questions. Like "how can I contribute more to BIG?", "who can help me carry stuff to my van?" and "who is coming to the pub?"

## Join the Conversation!

Join over 1000+ people working in STEM engagement and communication on our BIG Chat forum. It's an active line of communication allowing for plenty of interactive networking and the exchange of good practice and sharing of ideas.

To join the BIG-CHAT e-mail list, send a blank e-mail to:

[big-chat-subscribe@yahoo.com](mailto:big-chat-subscribe@yahoo.com)



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