



# REPORT Sept 2016 – July 2017

## DIRECTOR'S REPORT

Our programme of Maths Inspiration shows continued to thrive in the 2016–17 school year, with nearly 14,000 teenagers and teachers attending our shows in England and Wales, and a further 2,000 in Australia.

In July 2017, the Smith Report on maths education was published. It focused on the need for more teenagers to continue their maths studies beyond the age of 16. For this to happen, teenagers need to be engaged with the subject, and to see that it is relevant to their future lives – and so it has never been more important that students be exposed to the engaging maths content that is the central feature of Maths Inspiration shows.

Schools report that this has been a tough year. Many are struggling to recruit maths teachers, and are grappling with the challenges of the new curriculum and tighter budgets. In response to this, with support from our sponsors and partners, we decided last year to make all teacher and PGCE trainee seats free at our shows. We were also able to allocate over 1,000 free students seats to teenagers where schools had identified a need, with support from the Further Maths Support Programme.

We remain committed to innovation in our shows, so that our content can continue to evolve and improve. We are particularly proud of two themed shows we did in late 2016:



Rob Eastaway receives the Zeeman medal from Professor Chris Linton (IMA President) and Professor Simon Tavare (LMS President)



Matt Parker gets help from a volunteer at our Reading show.

- Two Cardiff shows themed entirely around the maths of rugby, in partnership with Admiral Insurance.
- Six London shows themed around the maths in the award-winning book and play *The Curious Incident of the Dog in the Night-Time*, in partnership with The National Theatre.

It is vital that we listen closely to the needs of schools. In 2016 we set up a Teacher Advisory Panel. This group of around a dozen teachers from across the country has already given us feedback that has been invaluable in helping to steer our future plans.

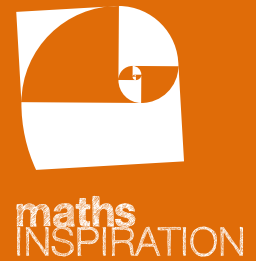
In March 2017 I was thrilled and honoured to be awarded the Zeeman medal for the communication of maths to the general public, partly in recognition of my work with Maths Inspiration. I, and the rest of the Maths Inspiration team, are passionate about conveying the relevance of maths to everyday life. We have an exciting programme planned for the coming year, and I hope Maths Inspiration will continue to inspire teenagers to pursue maths and its endless possibilities.

**Rob Eastaway, September 2017**



Paul Shepherd explains catenary curves at Sheffield's Crucible Theatre

Maths Inspiration is a national programme of interactive maths lecture shows for teenagers. We give 14–17 year olds a chance to experience the UK's most inspiring maths speakers live in theatres, presenting mathematics in the context of exciting, real world-applications. Our geographical spread of venues means that every school in England and Wales is within reach of one of our shows. We aim to increase the number of teenagers who go on to study mathematical subjects to AS Level and beyond.



Photographs: Ben Sparks

## 2016–17 SHOWS

Below is a list of the venues we used in 2016/17. Note that we only use theatres that will offer special rates for educational events, as value for money is a priority in keeping our costs down.

### Year 11/12 shows

City	Venue	Total attendance
Bath	The Forum	850
Birmingham	Bramhall Concert Hall	1,100*
Cambridge	West Road Concert Hall	900*
Cardiff	Dora Stoutzker Hall	550*
London	Gielgud Theatre	4,200*
Leeds	West Yorkshire Playhouse	900*
Manchester	RNCM Concert Hall	1300*
Newcastle	Northern Stage	600*
Reading	Hexagon Theatre	800
Sheffield	Crucible Theatre	650

### Year 9/10 shows

City	Venue	Total attendance
Guildford	Yvonne Arnaud Theatre	600*
Liverpool	Capstone Theatre	500*
Northampton	Spinney Theatre	350
Nottingham	Playhouse	500*



**Very funny and interesting, especially the strategies in game theory.**

Year 11 student, Birmingham

\* indicates more than one show

## THE CURIOUS COINCIDENCE OF MATHS IN THE DAYTIME

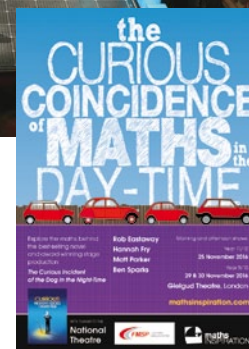
We are always on the lookout for new opportunities for presenting maths in a different context. Early in 2016 we approached *The National Theatre* about doing Maths Inspiration shows on the 'mathematical' set of *The Curious Incident of the Dog in the Night-Time* at the Gielgud Theatre in London. The idea developed into an entire show about the maths that appears in Mark Haddon's bestselling novel, and the maths that was used to create the award-winning West End production. In collaboration with the National Theatre, we were able to include in our production the actor who plays Christopher. He performed the 'Appendix' sequence that features at the very end of the play.

Over 4,000 teenagers attended our six shows, several hundred coming free thanks to support from the Further Maths Support Programme. The Today programme on Radio 4 featured a prime time interview about our show, and the involvement of STEM subjects in theatre.

We are doing a final UK performance of our Curious Coincidence show in Milton Keynes in September 2017 before the play closes for good in the UK, and by special invitation, we are putting on three performances of our show in Melbourne, Australia when the play tours there in February 2018.



Matt Parker on the Gielgud Theatre stage



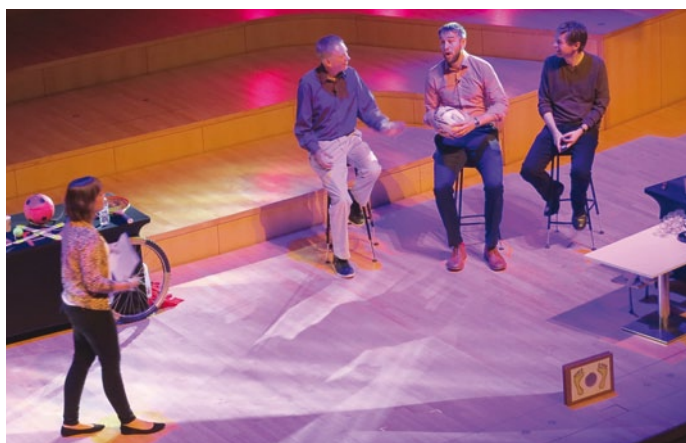
## PRESENTERS AND GUEST SPEAKERS

Everyone who takes part in a MI show has been selected because of their expertise in their field – maths, engineering, statistics – and their ability to communicate with and inspire a teenage audience. This year's shows featured more than twenty high calibre presenters and guest speakers.

We are delighted that several of our speakers have gone on to gain a high profile in the media, in parallel with their involvement in Maths Inspiration.

Our speakers are role models for the next generation, and we aim to have at least one woman presenter in every show. We are always on the lookout for new talent and we provide coaching, mentoring and support for all of our speakers.

For a full list of our speakers see our website.



Former Wales rugby captain Ryan Jones explains the technicalities of passing, with Jen Rogers, Hugh Hunt and Rob Eastaway.

## THE MATHS OF RUGBY

Our longest standing sponsor is Admiral Insurance, based in Cardiff. Admiral is also a leading partner of Welsh Rugby. With Admiral's support, we took the opportunity to combine these interests with two Cardiff shows based around the maths of rugby. Former Wales captain Ryan Jones was our special featured guest. He provided a rugby player's perspective on the tactics behind passing and kicking, while Maths Inspiration speakers provided the mathematical and statistical analysis.



Sammie Buzzard made her Maths Inspiration debut, talking about the maths behind melting polar ice caps.

## SHOW PRICES/SPONSORS AND PARTNERS

We work hard to keep our ticket prices low and to make our shows accessible to everyone in the target age groups. This year, over 85% of our audience came from state schools.

We do this by attracting sponsors and partners who subsidise the cost of the shows. We would like to thank all of our sponsors and supporters (listed below) for helping us to promote maths to the next generation.

Sponsor/grant funder/supporter	Involvement with Maths Inspiration
Admiral Insurance	National sponsor, and exclusive sponsor of our Cardiff shows. Admiral have supported us since we started, and have enabled us to expand our programme nationally.
Further Maths Support Programme	Delivery partner of our Year 9/10 summer and <i>Curious Coincidence</i> shows, enabling us to offer free seats to students from target schools.
Trinity College Cambridge	A grant to enable us to make all teacher and PGCE seats free.
Institution of Structural Engineers	Grant funder, at least two shows feature structural engineering speakers.
Northern Powergrid	Co-sponsor of the Newcastle and Leeds shows.
NFT	Sponsor of the Nottingham show.
Newcastle University	Supporter of the Newcastle show.
Sheffield Hallam University	Supported our Sheffield show.
University of Birmingham	Supported our Birmingham show.
The National Theatre	Partner in delivering our <i>Curious Coincidence</i> shows.
The UK Maths Trust	Support us in the promotion of our Leeds shows.

We are keen to work with new partners and sponsors. If you would like to find out more about this opportunity, contact Jill Walsh at [jill@mathsinspiration.com](mailto:jill@mathsinspiration.com)

## ENGAGING WITH MATHS TEACHERS

The success of our shows is underpinned by the feedback and ideas we get from maths teachers. We collect feedback in the following ways:

- The teacher questionnaire, given out at the end of each show.
- At teacher conferences, where we have a stand and talk to teachers in more depth, inviting comments and suggestions.
- The Maths Inspiration Teacher Advisory Panel. This is a group of experienced maths teachers from schools and sixth forms across the country. The TAP acts as a sounding board where we test ideas and invite feedback about the development and delivery of the shows.

In July we attended the MEI conference at Keele University and held our first focus group with a mixture of TAP panel members, teachers that we recruited on the day and other maths specialists. We collected some invaluable information and ideas which will influence our future programs. For a full write up visit the teachers' page on our website.



**Maths Inspiration shows give my students ideas for how maths is relevant in careers they have never considered before.**

Teacher Advisory Panel member