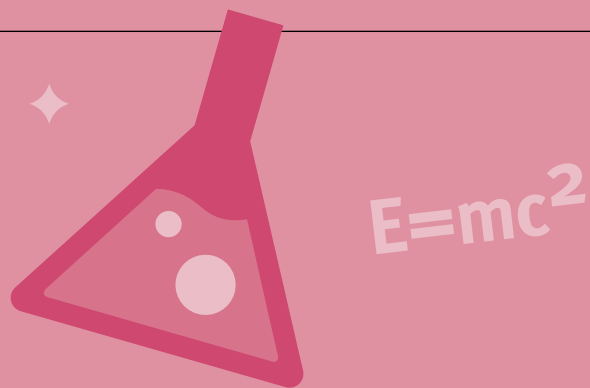
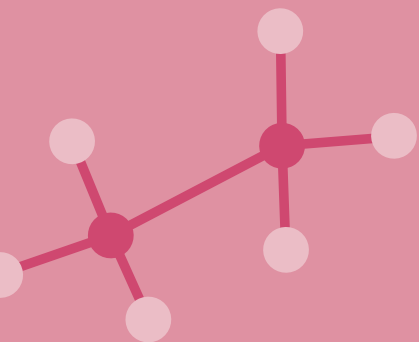


# Annual Review 2020



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# Welcome

This year has been one of the most challenging in the Ri's 221-year history.

Forced to close our doors to the public for the first time since the height of the Blitz, we were introduced to an unfamiliar landscape of remote working, re-invention, cost-cutting and, like many small charities and cultural organisations, a fight for survival.

Our core income sources, venue hire and other events, were decimated. We incurred a deficit of £1.1m in the financial year ending 30 September 2020 and we expect to incur a deficit again in 2021, before returning to a balanced financial performance in late 2022.

That the Ri is still here, and planning for a future in which we will thrive, is due to robust action by our senior team and the commitment and sacrifice of Ri staff, who accepted furlough, reduced incomes and, sadly, a round of redundancy, with stoicism. And it is due to the generosity of our many, many supporters. They stood by us, as many of our Ri Members and Patrons did, and worked with us, to re-direct funds to where they were needed most.

So, to all those who have continued to support the Ri during this exceptionally challenging year – working tirelessly, giving their time and expertise, or offering a vital financial contribution – we say a huge thank you.

And now we are looking ahead and planning for a brighter future in 2021. Before Covid-19, our charitable activities were growing, and in the first three months of 2020 virtually every team at the Ri reported a stronger performance than in the same period the previous year: more Masterclasses, more Science in Schools, more world-leading scientists unveiling their ground-breaking advances in our wonderful theatre. The list went on.

During Covid-19, we adapted. Our new livestream talks quickly became popular and widened our audience, we used technology to work with more agility, and we found ways to continue working with our overseas partners – taking engaging science to our international audience. Our YouTube channel continued to grow, and we expect to hit the one million subscribers mark very soon. And of course, the CHRISTMAS LECTURES were broadcast on UK national television again, just as they have been in every year since 1966.

So, despite Covid-19, we are looking forward to a year in which the Ri will grow in ways that might have been unimaginable before. We are planning to refocus our efforts on the public's engagement with science and our education programmes. And we are looking forward to opening our doors once more and welcoming everyone back to the Ri.



Sir Richard Sykes  
Chair



Lucinda Hunt  
Director



# Do science

## Live science, love science, science science

Despite the impact of Covid-19, we were still able to take innovative and thought-provoking science to hundreds of thousands of people worldwide.

The year had begun so promisingly. When the 2019 CHRISTMAS LECTURES with mathematician Hannah Fry finished their run on BBC iPlayer at the end of January, they had gathered the largest audience – some 2.3m people – since 2012.

From January to mid-March, our public programme of adult events saw nearly 4000 people fill the Ri theatre for sold-out talks, and the first two Ri Discourses of the year, with physicist Sean Carroll, astronaut Kathryn Sullivan and Nobel Prize winner Sir Gregory Winter among others. As one Ri Member of 25 year's standing noted, the range of subjects – from Hubble, to quantum mechanics, to new medicines – provided the opportunity to 'come away from each lecture with new knowledge.'

And our YouTube channel – where we make Ri talks available to everyone, around the world, for free – continued to attract new subscribers at an exponential rate.

And then in March, we closed our doors.

However, out of crisis comes innovation and, after a brief curtailment of all activities while Ri staff were furloughed, we launched a programme of weekly livestreamed talks. We transported world-leading scientists from their living rooms to yours, including physicist Jim Al-Khalili, Astronomer Royal Martin Rees, and mathematician Eugenia Cheng. And we did it without charge, relying instead on generous donations from those who tuned in. For many – science lovers and those looking for new distractions – Tuesday evenings, and later Thursdays too, became something to look forward to, bright spots in some otherwise dark and unfamiliar days.

Since then, over 16,000 people have joined more than 40 livestreams; our audience has grown, around the UK and internationally, taking the Ri to many unable to come to London.

In all, the success of our online events has given us a strong foundation on which to build in 2021, as we plan for a return to live events in our theatre and a continuation of our livestreamed talks.

# The show must go on

For only the second time in their history the CHRISTMAS LECTURES were delivered in 2020 by three expert scientists rather than the usual one.

The decision to break with Lectures tradition brought the scientific rigour that only discipline specialists could, to the broadest of subjects: our very own planet Earth. And it ably demonstrated how the defining challenge of our century – climate change – will not be met by a single solution. Multi-disciplinary science holds the answer; an important message to our young audience, long before a word of the Lectures had been captured on film.

Little did we imagine, however, that the choice of three Lecturers wouldn't be the only break with tradition. But despite the challenges of Covid-19, the Lectures were filmed in the iconic Ri theatre as they are every year, thanks to the dedication of the Ri team, Windfall and the BBC, and the generosity of our supporters.

Everyone adapted and the show went on. Face masks became just another filming prop; social distancing became part of the choreography; the fascinated faces of our young audience moved from live in the theatre to a wall of video screens – our first virtual CHRISTMAS LECTURES audience.

In Lecture one, geologist Chris Jackson showed how the Earth's finely balanced tectonic system has controlled the level of carbon dioxide in the air and how, for the first time, humans are tipping this balance. In Lecture two, physicist and oceanographer Helen Czerski showed how shifting ocean water creates an engine that distributes heat and nutrients around our planet. And in Lecture three, environmental scientist Tara Shine examined Earth's never-ending supply of oxygen, before revealing why increased carbon emissions are so dangerous to its delicate balance.

And the results? Different, but distinctly the CHRISTMAS LECTURES. As engaging as ever; full of the scientific process of exploration; and enjoyed by millions.

As ever, we owe a huge debt of thanks to our CHRISTMAS LECTURES major supporter, IBM, and our community of supporters, the Lloyd's Register Foundation, the Godwin Family and UKRI. For the Lloyd's Register Foundation this was the fifth year in a row they had supported the CHRISTMAS LECTURES. Thank you to them all.



**Left:** A first virtual audience for the CHRISTMAS LECTURES

**Next page:** Tara Shine offers plenty of food for thought on climate change during her 2020 CHRISTMAS LECTURES





# Linking the past and the future

Our heritage and digital activities span the ages, from a time when science was undertaken by just a handful of individuals, to today's multi-disciplinary, interconnected world.

It is perfectly encapsulated in John Tyndall, a 'gentleman scientist' of the 19th century, forever linked with the defining challenge of the 21st: climate change. To mark 200 years since his birth we celebrated his research at the Ri, as well as that simultaneously undertaken by Eunice Foote, examining what we know of today as greenhouse gases. In 2021, we look forward to marking another notable milestone in the Ri's heritage, the bicentenary of Michael Faraday's development of the electric motor.

Our Heritage and Collections Team continued to provide expert advice to researchers in the UK and around the world. Through our internationally significant collection – a foundation for the funding received from the Government's Culture Recovery Fund – we shared fascinating artefacts of history, and insights into today's relationship between science and the public.

Faraday's Bramah Press continued its loan to the Kelham Island Museum in Sheffield. We appointed a new researcher into the history of the Ri, while throughout the year we continued to host PhD students examining the history of science, generously funded by the Freer Trust. Also with the support of the Freer Trust, we hosted internationally recognised historians during a day-long seminar on 'perpetual motion' in partnership with the Da Vinci Society. It is an appropriate footnote, as we tackle the rise of pseudo-science and fake news today, that perpetual motion was originally debunked at the Ri some 200 years ago.

We also continued to grow our digital channels, curating engaging scientific content that we shared with the world through YouTube and social media. We marked a record year for our YouTube channel, adding over 260,000 new subscribers, to take us to 950,000 by the end of the year. Helped by the creation of nearly 100 new videos, our YouTube content was viewed 38 million times during the year. We expect to break the magic 1 million subscribers milestone in early 2021.

We also grew our social media audiences, adding over 12,000 followers to Twitter, a 15% increase year on year; and 2000 to Instagram, a 38% increase. Our livestream programme, reported on elsewhere, also brought new audiences to the Ri.

We do science at the Ri. And from the old to the new, our heritage remains acutely relevant today, while our digital content knows no barriers. We look forward to continuing our important work on both during the year ahead.

**Right:** John Tyndall's original apparatus in our free museum





# CHRISTMAS LECTURES like never before

The CHRISTMAS LECTURES are always a lengthy, complex project. No sooner has the Director called cut, than the next year's programme is underway. This year we worked under the shadow of an unwelcome guest, yet having to follow the necessary Covid-19 regulations made the 2020 Lectures truly unique.


Ri Family Programme Manager, Pete Gallivan, who has been central to every CHRISTMAS LECTURES production for the past five years, explains how the challenges were overcome.

'Firstly, we switched most of the workshopping and rehearsal meetings online. The Ri demo team were the only ones actually in the Ri, to show demos as they developed. Aside from the technical issues familiar to us all, moving these meetings online was an improvement, enabling them to happen more often, and to be more concise than in-person meetings.

Another adaptation was our first ever virtual audience. While you may already have seen these on a few primetime television programmes, getting this done within our more modest budget was challenging. Thankfully, through our Ri AV technicians and the Windfall production team, we created an effective solution, which captured some of the feel of an in-person audience. Having a virtual audience also helped us reach a wider range of schools than usual, as well as giving Ri Young Members living outside of London the chance to take part.

Thanks to everyone's hard work and adaptability, the end product was three amazing CHRISTMAS LECTURES which felt pretty similar to normal. While this might not sound like much, it is due to a mammoth amount of unseen work that we achieved this result.

In the final analysis, we have an amazing record of a unique year for the Ri archive. And when the Ri archivist looks back in 100 years' time, we all sincerely hope that they are looking at just a single year!'

A photograph of three people sitting in a red cinema seat. From left to right: a man with glasses and a grey t-shirt, a woman with long brown hair in a dark blue velvet top, and a woman with blonde hair in a light blue t-shirt. They are all smiling and have their hands clasped in their laps. The background is a blurred red cinema wall.

**Left:** The choice of three expert scientists for the CHRISTMAS LECTURES brought rigour to the broad topic of planet Earth



**Ri**

# Demand diversity

## Open doors, promote inclusion, work differently

For some years now, quietly, behind the scenes, mostly of our own volition but occasionally following helpful criticism from friends, we have been working to make the Ri more diverse.

A greater breadth of topics discussed, with more consideration of moral and ethical issues. An increase in talks from scientists who are more representative of society today, and more events to celebrate those whose contribution has been under-acknowledged in the past. More listening, not lecturing, to young people, and greater efforts to reach those who benefit from support to engage with science, particularly in our disadvantaged schools.

We made significant progress in 2019, including the establishment of a staff-led EDI group to oversee initiatives at the Ri and development of 'Demand Diversity' as one of four new value drivers at the Ri. Despite lockdown and furlough for the majority of Ri staff, we managed to move further forward again in 2020.

We began working with Black Ticket Project, a charitable organisation giving Black people, particularly the young, the opportunity to experience theatres for free or at a discounted rate. We adapted the Ri's 221-year old governance to appoint a Trustee with specific responsibility for diversity and inclusion, while beginning to baseline measure equality, diversity and inclusion across Ri governance, as a precursor to reporting on this annually.

We adapted our Science in Schools shows for those with special educational needs and began advertising Ri Committee vacancies on Women on Boards, appointing four additional women to the Audit and Risk Committee as a result.

And in December we saw one of the CHRISTMAS LECTURES given by a Black scientist, geologist Prof Chris Jackson, for the first time. We know it was long overdue, because representation matters, and that's one of the reasons why we have had more female Lecturers than male over the past 10 years. But we are looking forward not back.



**Right:** Helen Czerski delivering her 2020 CHRISTMAS LECTURES

# Striving to be more diverse

Many great people did many great things at the Ri; world-shaping scientific advances honestly applied for the benefit of society. There is a great deal in our history – most of it we think – to be celebrated.

When the Ri was founded, however, society was different. People were different, morality was different, and accepted behaviour was different. Thankfully, times have changed. However, like many organisations of any significant age, there are elements of our past that should not be celebrated today; donations received from money linked to enslavement or consideration of discredited ‘science’ like eugenics for example.

Certainly, these are not celebrated by those of us who work at the Ri today. The world has moved on since 1999, let alone 1799, and we are taking steps to reflect that in our activities, content and audiences.

At the Ri today, we are striving to be a more diverse organisation because it is the right thing to do. Diverse,

representative voices are crucial if science is to be informed by everyone in society, which is something we feel very strongly about.

So in the year ahead, we will continue working on events and activities that better reflect society, represent all those who work in STEM, and are accessible to everyone.

We will plan for an accessibility standard of at least ‘AA’ for our new website. We will embed inclusive language in our style guide, run EDI training for all Ri staff, build on our involvement with the Special Educational Needs in STEM workshops and formalise our collection of diversity data. We will look at the number of tickets we make available for free, or at a discount, to under-represented communities, and we will increase again the number of events celebrating the diversity of achievement in science.

And we will look to focus on a proper examination of our history – a project begun some time ago, to be led by our Heritage team and our newly appointed researcher into Ri history. We are acutely aware that our past is not perfect. And while we can’t change that past, we should properly acknowledge it, and we can all learn from it.

We know that these are small steps and that there is much more to do. And we know that what we do won’t happen quickly enough for some, but we will get there. We pledge to work hard to make the Ri a better place for everyone.



**Left:** Ainissa Ramirez, just one of the world-leading scientists who spoke at the Ri in 2020.





# Dare to question

## Keep listening, keep learning, respect everyone

As our Family Programme manager knows only too well, young people tend to ask the most uninhibited, insightful and challenging questions at our events. So to turn the tables a little, we began 2020 with a question for them to consider: 'Should your town centre be for self-driving cars only?'

Linked to the 2019 CHRISTMAS LECTURES theme of mathematics, the third instalment of our schools debate kits was specifically designed to get children aged 11-17 thinking more critically about the real-world application of science.

Running throughout 2020 and generously supported by CHRISTMAS LECTURES major supporter the Lloyd's Register Foundation together with the Institute of Physics, as in previous years we found that young people were perfectly capable of articulating well-formed opinions. However, they were not so entrenched as to be incapable of changing their position as the debate unfolded.

We also saw that our debate kits were used in science and non-science lessons, engaging those who wouldn't normally take a strong interest in science. It is this, and the depth of thinking around an issue, that makes our annual debate kit – with over 2200 copies mailed or downloaded in 2020 – such a valuable educational resource.

Of course, we are keen to see that spirit of questioning developed as children grow, and maintained into adulthood, not just among us members of the general public, but also among policy makers and business decision-makers, and scientists themselves.

In late 2019 we began working with a diverse group of scientists and science communicators who share the Ri's objective to critically examine science and to question before accepting. Together they are united by a purpose to help everyone access reliable information about science, addressing the spread of misinformation and disinformation online, in the media, and in academia. We increased our support in 2020 – helping them to access funding from the Open Society Foundation and increasing our active participation in their efforts – and we look forward to continuing that work in the year ahead.



**Right:** So many questions at an Ri Science in Schools show

# Young people speak at the Ri

What do you do when you can't fill your theatre with young people and scientists to debate ethics? You move the event online and increase capacity for the eager participants.

Designed to gather the views of young people to inform the content of the CHRISTMAS LECTURES, the annual Youth Summit at the Ri was another activity we were determined to run. We know that encouraging enquiring young minds helps to develop confident, analytical adults. And we strongly believe that the world-shaping power of science should be informed by those it is intended to serve, in particular the next generation. So our Youth Summit is a prime example of 'citizen science' which sits at the heart of our value driver, 'Dare to Question'.

Like many activities in 2020, traditional norms were re-imagined and in October we opened the virtual doors to a truly a unique event. The chatrooms were established, the moderators were primed, and Christmas Lecturer Tara Shine's opening remarks were honed. The discussion topics were set – should we control our population growth? How do we build a green future? Do we control our own route map? How do we make society more equal?

Throughout the day over 250 young people from more than 40 schools shared their thoughts with each other, the moderators, and indirectly, with the 2020 Christmas Lecturers. In the 10,000+ lines of debate captured, there were some strong feelings, some very well thought through positions, and many helpful insights. The end result was rich content to help inform the Lectures, about political change, population control, climate injustice, future technologies and renewable energy. Young people had spoken at the Ri.

**Below and right:** The 2020 Summit may have been virtual, but the debate was no less rich



# Our year at a glance

Before most of our activities were suspended in March, the financial year beginning 1 October 2019 had been shaping up to be a record year for the Ri. Our numbers show that virtually every team was reporting growth versus the same period the year before. And with growth comes greater reach.

‘I remain now, as I have been since I can remember, devoted and addicted to science and am as keen as ever to support the aims of the Ri. After all, it is science that will solve this crisis!’

Ri Member

## Science in Schools



Science in Schools bookings in March alone (vs 23 in 2019)

## Masterclass sessions

# 13%

growth in Ri Masterclasses



‘I loved the thought-provoking debates about communism, socialism, inequality, population control and climate change and how this all links together in one big conversation. It has opened my eyes to the difference we can all make, because we are the next generation and we must make a stand if we want to save our planet.’

Virtual Youth Summit participant

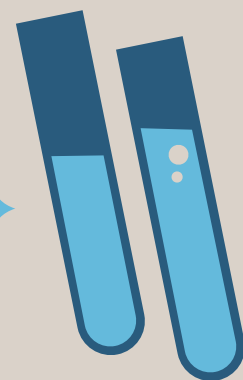
‘Your work in making up-to-date scientific developments accessible to the general public (regardless of how qualified they may be) is invaluable.’

Ri donor

Young scientists

41

LYSC workshops in January to March 2020 (v 36 in 2019)



Livestream talks

16k

people enjoying 40 livestream talks (June to December)

‘The Ri is a most valuable educational resource.’

Ri donor

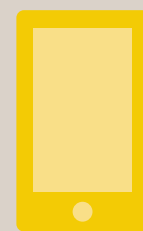
‘Thank you for bettering humanity through education and discovery.’

Ri YouTube follower

Social media

15%

increase in followers on Twitter and 38% on Instagram



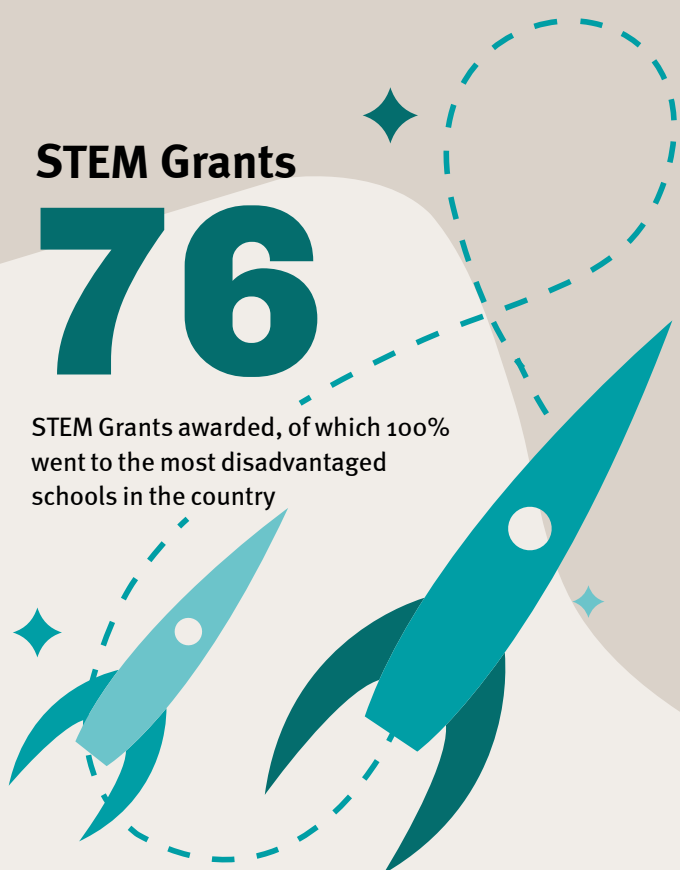
STEM Grants

76

STEM Grants awarded, of which 100% went to the most disadvantaged schools in the country

‘This is Vikram, from Chennai, India, congratulating you for the work you are doing. Your Lectures are fantastic, fabulous and inspirational. They are diverse in their range of topics and open up new areas of interest and wonder. Never forget, even in the bleakest hour, that your service is vital to the next generation.’

YouTube viewer



‘Can I say how much we have enjoyed the virtual lectures? They have done our mental health no end of good to listen in and feel part of the Ri during this time.’

Ri livestream viewer

## Return visits

89%



of livestream viewers who would like to join again

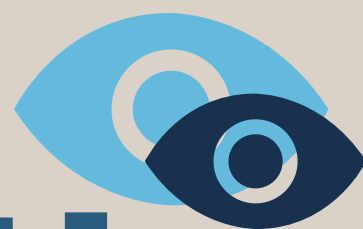
‘If there is one good thing to have come out of Covid, it’s that I have been able attend Ri lectures this past year. For us in California the lectures start at 11am and I’ve made it a point to clear my diary. I am particularly grateful for a moment of joy and encouragement for one of my students, who comes from a family that does not particularly ‘believe’ in science, when the speaker answered not one but two of her questions during one of the lectures.’

Ri livestream viewer

## YouTube

261k +

new YouTube subscribers, a 38% increase, with 38 million video views in 2020 alone



‘I was privileged to see Prof Eric Laithwaite demo his linear motor at the Ri as a young student. The Ri is shaping the future by encouraging science in young minds.’

Ri livestream viewer

## Youth Summit

10k

lines of discussion captured from young people at our virtual Youth Summit



‘Thank you for continuing to fuel the dreams of my son.’

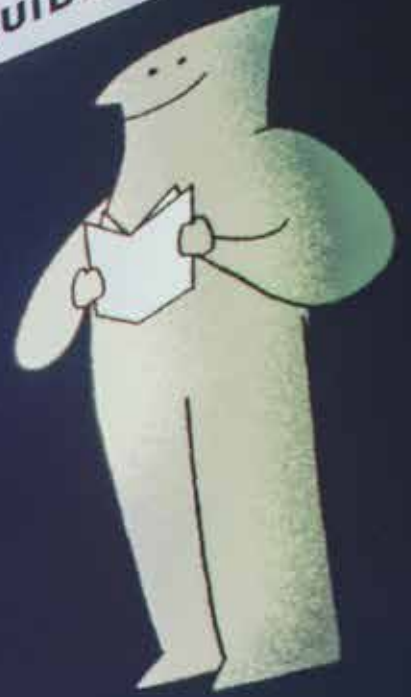
Ri livestream viewer

**Next page:** Oceanographer Helen Czerski presenting her 2020 Christmas Lecture



# PLANET EARTH

A USER'S GUIDE





Ri

# Discover together

## Spark minds, fan flames, maintain wows

Every year, after our popular Summer Schools have wrapped up, we often remember how excited participants of all ages were to be learning about a subject they love, with others who so clearly felt the same way. So the opportunity to discover together – as families or with like-minded peers – is the foundation on which our Education and Family Programme activities are built.

At the beginning of the year, before lockdown, our engagement with schools promised to repeat the previous year's growth.

In January we secured generous support for primary Masterclasses from the Kantor Charitable Foundation and over the next three months our Masterclasses Team delivered 405 workshops attended by 3000 students. In the first half of the 2019-20 financial year, the programme grew by 13% compared with the same period the year before; the third consecutive year of stable growth. We also broke new ground, delivering a secondary mathematics Masterclass series in Northern Ireland for the first time.

As we began celebrating a decade of successful partnership with L'Oréal, the L'Oréal Young Scientist Centre ran more workshops than ever; 41 from January to mid-March. We also began a joint project with L'Oréal to develop new sustainability focused workshops, around the areas of energy supply, plastics and food security.

Our Science in Schools programme saw professional science presenters visiting nearly 50 schools to reach around 16,000 students. March saw a record number of 42 bookings, with the 27 events we were able to deliver before lockdown, exceeding the total for the whole of March 2019. We were also excited to be part of the Swansea Science Festival again, providing interactive online shows with live Q&A sessions for families during lockdown.

Looking forward, through Masterclasses, we are projecting to reach 400+ students online in the first three months of 2021, following a successful pilot in late 2020. We have adapted our Science in Schools programme to ensure it is Covid-safe, and in January, thanks to kind support from the Gillespie Endowment, we will open applications for 70 fully funded shows to schools that would not otherwise have this opportunity. We will also pick up where we left off in developing our new LYSC workshops, linking to the CHRISTMAS LECTURES theme of our planet.

Although growth in our educational activities was halted in March, support from L'Oréal, the Kantor Charitable Foundation and other funders was unwavering. We look forward to repaying their faith during the year ahead.

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**Next page:** Chris Jackson delivering another explosive Christmas Lecture





# Inspiring the scientists of tomorrow

Young people are a priority audience here at the Ri. We know we are privileged to give them opportunities to engage with science; not just to learn about it, but also to experience the fun, creativity and exploration involved in the scientific process. After all, many of them will be the scientists of tomorrow.

So our work in schools is of paramount importance, and never more so than when the recipients are children who benefit from additional support to engage with science.

Although we received fewer than half the number of applications for our STEM Grants scheme than in 2019 – a clear indicator of the Covid-19 impact – the outcomes were among our most pleasing ever. A total of 76 grants were awarded in October, all to schools in the most disadvantaged areas of the UK as ranked by the Income Deprivation Index. Nearly 60% of grants went to schools in the lowest 20% of Index areas.

And while we were hugely disappointed to cancel many of our planned Family Programme activities, including our much-loved Summer Schools, we were pleased that before lockdown we were able to give opportunities for young people to get stuck in with our unique hands-on and collaborative science experiences.

**Below:** Another intake at our LYSC...30 more bath bombs!

Engineer Hugh Hunt expertly demonstrated the physics of boomerangs, while physicist Ben Still gave us a tour of subatomic particles, using the unlikely medium of Lego, in an event enjoyed by both the children...and many more adults than we were expecting! During the summer, we turned our attention to developing do-at-home experiments for our Ri Young Members, using everyday household items.

We were also delighted to discover that Ri favourite Andrew Szydlo is one of the few people in the country to have a chemical fume hood and photographic black room in their basement. The series of videos he filmed for us from his basement gave everyone a welcome distraction when it was needed most, with one of his videos – ‘The magic of chemistry’ – proving to be our most popular of the year on YouTube with 6 million views.

We look forward to more engagement and more discovering together, remotely or face to face, in the year ahead.

**Below:** Young people engrossed in a talk at the Ri





# A day of colourful science. With bangs.

When professional pyrotechnic and science presenter, Matthew Tosh was welcomed by staff and students at St Gregory's RC Primary school in November, teacher Dee Chamberlain told us they had no idea just how exciting, entertaining and informative it was going to be. Nor, as it turned out, how explosive.

'In the days before the event Matthew had been in touch about his Ri Science in Schools show, to ensure that he understood our expectations and most importantly that all necessary steps had been taken to make certain that the event would run smoothly and safely.

There were three sessions during the day, with the children attending in year groups due to Covid-19 restrictions. That meant each session could be tailored for age, and from the outset Matthew had everyone (teachers included) on the edge of their seats with excitement and anticipation!

Who knew that gunpowder didn't bang if it was not inside some sort of container? Certainly not those of us sat with our hands over ears! Matthew delivered just the perfect mix of awe, wonder and learning.

He took us on a journey from the basics, introducing the children to the fire triangle and explaining the factors that are needed for combustion, through to how fireworks are made and how to make a bigger bang (cue much excitement!), to the different metals that make the colour in fireworks. There were practical demonstrations all the way through helping to explain and explore the points that Matthew was making more deeply – ensuring that it was accessible to all the children.

Matthew also explained the job of a pyrotechnic, and apart from opening young eyes to a science career they hadn't considered, together we enjoyed seeing the good and the bad of life as a pyrotechnic. Sitting out in the cold and the rain for several hours didn't stop a few of the adults thinking about a career change and we won't be surprised if some of our pupils look to this career opportunity. And we will certainly look at film effects with new eyes in the future!

The whole event was a roaring success. It was well-paced and met the educational needs of all our children from the lowest to the highest ability. In short, it achieved everything we had hoped for.'



*Left: The Ri is renowned for its explosive shows for young people, as demonstrated by Matt's fellow presenter Dan Plane*



Ri

# At the Ri

## Overcoming challenges together

With the vast majority of our engagement activities being face to face, the necessary closure of the Ri in March – for only the second time in our 221-year history – had a devastating financial impact.

No tickets sold to public events, no holiday workshops or Summer Schools and, crucially, no venue hire events saw our unrestricted income fall to almost nothing. We know we were not alone, with many organisations – small charities and cultural institutions in particular – sharing our experience.

We moved quickly to reduce our costs. Most Ri staff were furloughed from the beginning of April, discretionary spend was stopped and contracts were re-negotiated. In August, we took the difficult decision to consult on voluntary and compulsory redundancies. With sadness we said goodbye to some much-loved and respected colleagues.

Nevertheless, at the end of the 2019-20 financial year, we reported a deficit of £1.1m; £1.3m worse than planned. This deterioration was due principally to £2.4m lower income because of events cancelled during lockdowns, offset by cost reductions and £0.5m of furlough grant received.

We have financed this deficit by liquidating our remaining unrestricted reserves, reducing costs, deferring payment of taxes, and receipt of the furlough grant. And despite the deficit, we have not yet gone into debt. While we will need to do so in order to survive this crisis, using a CBILS loan and overdraft facility offered by our bank, HSBC, we expect to draw on this facility around the end of March 2021.

There were also some positives to give us cause to look forward to greater stability in 2021.

When it was needed most, corporate support for the CHRISTMAS LECTURES – notably from major supporter IBM, and the Lloyd's Register Foundation who generously extended their support for the fifth year in a row – was higher than ever. L'Oréal continued their partnership with us on the L'Oréal Young Scientist Centre, while the Faraday Institution's contribution helped get our embryonic livestream programme off the ground.

The Kantor Charitable Foundation agreed two years funding to enable continued delivery of primary mathematics Masterclasses; The Clothworkers' Endowment and Foundation continued to support our secondary mathematics Masterclasses and, with The LG Harris Trust, their funding of our STEM Grants made a difference in 76 disadvantaged schools across the UK. In October, we received news that we had been granted £588,900 under the Government's Culture Recovery Fund to support our costs in January to March 2021. This grant has been key in allowing us to defer the need to take on debt.

And while the Covid-19 pandemic continues to challenge the events and hospitality industry, with reduced confidence, budgets and clients, our Venue Hire team has taken the opportunity to concentrate on bouncing back, raising the Ri's profile as an outstanding venue. Increased social media, website improvements, new digital brochures and development of new client benefits – drawn from our rich heritage and therefore absolutely unique to the Ri – will help put us at the 'front of the grid' when venues are able to open once more.

We would like to thank all those who held events at the Ri during the year – in person and virtually – as well as those who showed confidence by postponing, rather than cancelling, their bookings. These may be mutually beneficial commercial arrangements, but we recognise our clients' contribution to supporting the public's engagement with science.

# Our governance and finances

## Our finances

In the 2019-20 financial year we generated £1.9m of trading income, £1.4m in voluntary income through membership and events, and £0.9m in voluntary income through fundraising. Due to the impact of Covid-19 we incurred a deficit of £699,000 on unrestricted funds compared to a £4000 surplus in 2018-19 and £100,000 the year before that. The year's result is also significantly less than budgeted as set out on page 25 above.

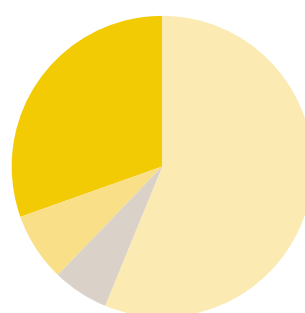
Full audited accounts are available to download from the Ri and Charity Commission websites.

## Our governance

The Royal Institution was founded in 1799 and received its Royal Charter on 13 January 1800. We are an independent Royal Charter charity, governed by our Byelaws and governing documents.

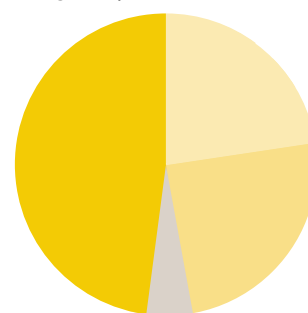
Our Trustees number 11 in total, nine elected by the membership of the Ri and two appointed by the Board. The Trustees ensure the Ri carries out its charitable purposes for public benefit and complies with its governing documents. Trustees have overall responsibility for managing the business of the Institution; setting strategic direction and objectives; safeguarding the Institution's assets; and overseeing all significant capital expenditure and relevant policies.

The Board meets a minimum of four times per year and is supported by the Audit and Risk Committee, Finance Committee, Nominations Committee and Remuneration Committee.



**Above: How we spend our money.**  
**Total expenditure 2019-20: £5.32m**  
 Education programme: £2.9m  
 CHRISTMAS LECTURES: £0.32m  
 Heritage: £0.39m  
 Trading: £1.71m

**Below: How we fund our work.**  
**Total income 2019-20: £4.2m**  
 Donations and legacies: £0.9m  
 Grants and events: £1.15m  
 Membership and subscriptions: £0.26m  
 Trading: £1.89m



**Royal Patron –**  
 HRH The Prince of Wales

**President –**  
 HRH The Duke of Kent

**Honorary Vice President –**  
 Sir John Ritblat

**Trustees –**  
 Sir Richard Sykes (Chair)  
 Dr Sophie Forgan  
 Simon Godwin (re-elected May 2020)  
 Andrew Gregson (resigned January 2020)  
 Prof Yike Guo (resigned January 2020)  
 Lord Julian Hunt  
 Sir Roland Jackson  
 John Krumins (re-elected May 2020)  
 Renato Lulia-Jacob (elected May 2020)  
 Dr Suze Kundu (elected May 2020)  
 Chris Potter (re-appointed May 2020)  
 Prof Angela Seddon (elected May 2020)  
 Prof Alison Woollard



# Members and Patrons

## A tale of continuity

While 2020 may have been a tale of postponement and cancellation in many areas, for Ri Members and Patrons it was one of continuity. We have often referred to their loyalty – the number of Ri Members who renew each year, for example, is high even for a professional membership organisation, let alone a cultural one like the Ri.

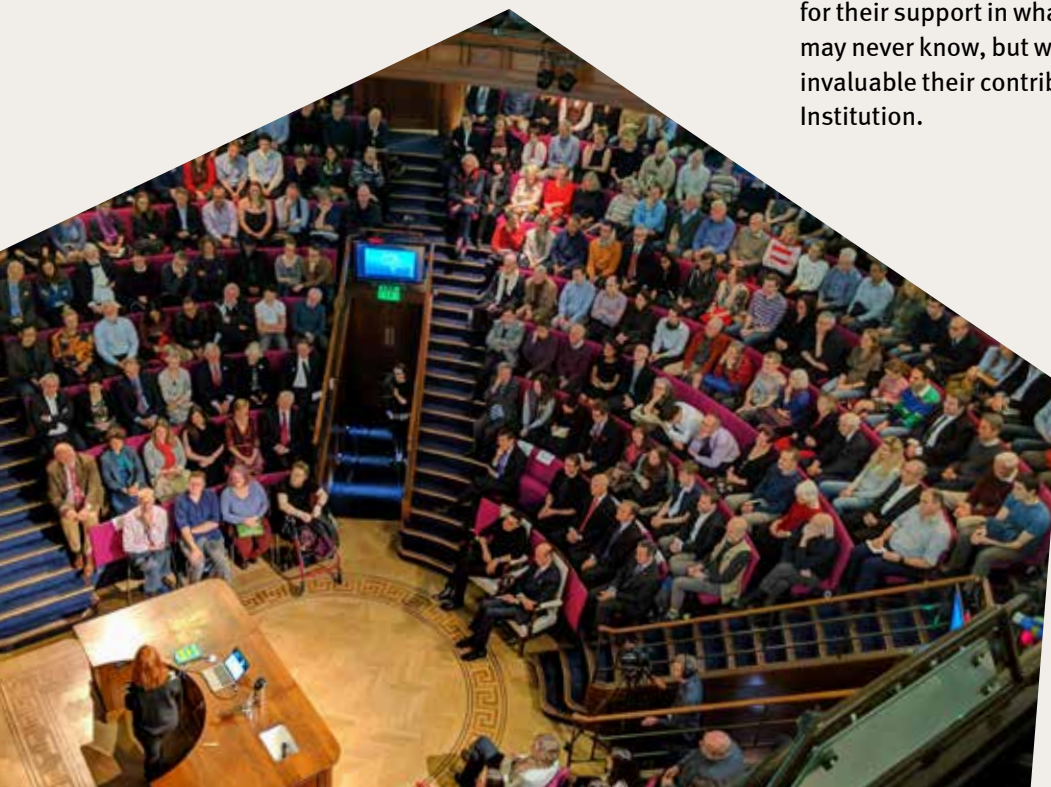
So in a year when that loyalty underwent an acid test, we are grateful that our core support remained strong.

Some Members and Patrons left of course and we look forward to welcoming them back to the Ri at some point in the near future. But many Members and Patrons chose to strengthen their commitment to the Ri. Some topped up their subscriptions with extra donations, while others politely declined our offer to extend memberships for a

period after our face-to-face events have returned. Five Patrons committed to a higher level of Patronage while a similar number of Members took the next step to become Patrons. New Members joined, many citing the pandemic and the Ri's clear need for support, as the final push to do something they had been meaning to do for some time.

In return, we have focused on increasing the associated benefits of membership, while innovating to maintain some that are more like traditions. Our newsletters, updating on the position at the Ri and curating opportunities to engage with science at other venues have increased to weekly; we have provided more do-at-home experiments to help keep our Ri Young Members occupied; and of course, we simply had to give as many of them as possible the opportunity to be part of the CHRISTMAS LECTURES magic through our first ever virtual audience.

So we can only say thank you to our Ri Members and Patrons for their support in what has been the hardest of years. They may never know, but we will always remember, just how invaluable their contribution was to the future of the Royal Institution.



**Left:** Looking forward to a packed Ri theatre one day soon

# Thank you

This year, perhaps more so than any other, we must extend a huge thank you to all those who support the Royal Institution. Our Trustees, Patrons, Members, donors, corporate supporters, volunteers, and visitors give us their time and expertise so freely, make an invaluable financial contribution, or both.

As an independent charity we rely on your support to encourage people of all ages to begin their lifelong journey with science. We look forward to continuing our important mission with you in 2021.



## Major supporters –

IBM	Lloyd's Register Foundation
Kantor Charitable Foundation	The Clothworkers' Foundation
L'Oréal UK & Ireland	UK Government Culture Recovery Fund
Simon Godwin	
Causeway Technologies	

## Director's Circle Patrons –

Luca & Leila Bassi	Simon Godwin
Cristóbal Conde	Renato Lulia-Jacob
Michael Fasosin	Bernard & Sarah Taylor
Ron & Helen Freeman	

## Faraday Circle Patrons –

The Faraday Foundation	Hank Roberts
Sir Desmond Pitcher	

## Diffusion Circle Patrons –

Nicholas & Tobe Aleksander	Graham Kennedy
Stephen Corben	Duncan McInnes
Damon Patrick de Laszlo	G J Moore
Paul Drake	Martin Pidd
GLC Charitable Trust	

## Magnetic Circle Patrons –

Mohammad Almojel	E C Renton
Azad Ayub	Sir John Ritblat
Iain Bratchie	Dame Theresa Sackler
John L Collins	Gavin & Georgina Sallery
Karen Hodson	Robert Sansom
Jerry Horwood	Sir Richard Sykes
Chris Lowe	
Katharine Medlow	All of our Electric Circle Patrons
Gautam Mitra	and all who wish to remain
Ralph Rayner	anonymous.

## Corporate partners –

AWE plc	KPMG
Bayer	Medtronic
Environment Agency	Roche
Faraday Institution	UK Research and Innovation

## Trust & Foundations –

Company of Actuaries Charitable Trust	National Centre for Nuclear Robotics
LG Harris Trust	Reece Foundation
AG Manly Charitable Trust	Shears Foundation
The Bernard Gold Foundation	DS Smith Charitable Foundation
Brian Mitchell Charitable Settlement	The Godwin Family
GM Morrison Charitable Trust	

## Other partnerships –

The Genetics Society	The National Education Union
The Grantham Institute for Climate Change	Tackling pseudoscience, at the Ri UCL
The London Institute of Mathematical Sciences	

**Above:** A packed audience in our historic lecture theatre

A collage of colorful icons representing various scientific fields. The icons include a red pencil, a yellow hexagon, a red molecular structure, a green eye, a pink leaf, a blue star, a yellow lightning bolt, the formula  $F=ma$ , a magnifying glass, a blue circle, a green radiation symbol, a pink question mark, a red maple leaf, a blue cloud, a yellow gear, a blue atom, a green wheel, a blue magnet, a pink leaf, a yellow hexagon, a blue star, a green eye, a pink leaf, a blue star, a yellow lightning bolt, and a red maple leaf.