# HUXLEY

# Shifting perceptions?

The challenges and opportunities of the Fourth Industrial Revolution

28 November 2018

# Contents

Today, the Huxley Summit will bring together leaders from business, policy-making and science to discuss how we can ensure products of innovation are fit for purpose as societal, environmental and cultural expectations change and shift. How does society overcome the challenges of the 'Fourth Industrial Revolution' and a potential breakdown of trust in technology from the public? There will be provocations and debates, plus time for networking and focussed discussions about how we navigate the future.

We encourage attendees to use

Twitter during the Summit, and we

All content and information correct at the time of going to

print. All materials used in the production of this programme

recommend you use the hashtag

#HuxleySummit to follow the

conversation.

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Agenda

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A film crew and photographer will be present at the Huxley Summit. If you do not wish to be filmed or photographed, please speak to a member of the team at the British Science Association.

# Agenda

11.00

### 12.00 Chapter 1: The changing tide of public perception

Since the 1950s, plastic has been seen as a problem-solving wonder. However, the recent public and media reaction to single-use plastics following *Blue* Planet II has raised many questions for businesses, policy-makers and scientists. How do businesses create confidence and trust from consumers in products that could impact society and the environment? How do institutions manage this risk and learn from past decisions?

13.20 Roundtable discussions and lunch

### 14.50 **Chapter 2: Preparing for the future**

# Part A: Short-term challenges vs. long-term risks

How can leaders in boardrooms and government consider changing perceptions in different technical and cultural spheres to create responsible innovations? This panel will discuss how boards can balance long-term risks and impacts with short-term challenges.

## Part B: Artificial perceptions of AI?

Artificial intelligence is heralded by technologists, business leaders, and policymakers as a wonder technology with the potential to solve global problems such as health, climate change, and inequality. How do regulators create an environment which both protects the consumer and is pro-innovation? How do businesses create products which won't create a public backlash - either now or in the future? What is the role of the traditional and social media in facilitating public acceptance of new technologies?

### 16.20 Coffee and networking

# Chapter 3: How different perspectives shape public perception

Genome editing has the potential to alter any DNA sequence, whether in a bacterium, plant, animal or human being. It has an almost limitless range of possible applications in living things and could change our current perceptions of what 'natural' is.

The technology has many socio-political, legal, and ethical implications. Globally, regulators and businesses are taking different approaches to gene editing technologies depending on their country's cultural and historical contexts. How will this influence the approach taken by the UK?

### 18.20 Drinks reception

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# Welcome



**Rt Hon. the Lord David Willetts** Chair of the British Science Association

Welcome to our third Huxley Summit. The event has grown year-on-year and is firmly becoming a fixture in the annual thought leadership events calendar; a key moment for bringing business leaders, scientists, policy makers and opinion formers together.

Much of 2018 has been defined by the ongoing Brexit negotiations and the potential ramifications of the outcome of those discussions. It has caused, in certain guarters, a divergence of opinion - played out with enthusiasm in the media – between those in Westminster and Whitehall trying to navigate a path through, and businesses, universities and scientists who have been vocal in their concerns about Britain's future relationship with our European neighbours. What is not under dispute is the importance of science, technology and innovation to the country's future; and positioning the UK as a leader in areas such as environmental policy, AI, and genetic technologies. Thus, while our conversation today will inevitably include Brexit, the Summit seeks to stimulate a broader discussion and debate and will tackle topics that have the potential to change the relationship between citizens, businesses and nations.

Our 2018 theme focuses on public perceptions; what causes public opinion of science and technology to change, why we should learn from the past to better prepare for the future, and how we can respond to risk and uncertainty. The public's perceptions are not fixed; they are influenced by wider societal issues impacting on public trust. Businesses, charities and the public sector can no longer take for granted the basic rules of engagement.

We will be examining what leaders in our boardrooms, our higher education institutions and in government can do to foster agile and responsible innovation that creates products and services that are fit for purpose as our societal, environmental and cultural expectations change and shift. The Summit brings together a diverse group of people with different areas of expertise and experience because we recognise that there is a need for a more interdisciplinary approach to addressing these issues.

We have convened an excellent range of speakers on three key topics of the moment. The input of our audience of leaders and influencers is just as important as the discussions that happen on stage, so the day includes lots of room for gathering your views.

I would like to thank our sponsors, partners and supporters. Thanks, of course, to you for attending. I hope you find it a stimulating event. Chi Onwurah MP, Shadow Minister for Industrial Strategy Science & Innovation for Labour, speaking at the Huxley Summit 2017



# Public opinion is powerful and unpredictable



# Katherine Mathieson

Chief Executive of the British Science Association

In our modern world, changes in social norms can be profound and rapid. Last year, who would have guessed that 'single-use' would be named Collins Dictionary word of 2018?(1)

But when the BBC's landmark series *Blue Planet II* aired at the end of last year, it seemed to have a profound effect on the public's attitudes to single-use plastic. In the 12 months that have followed, there has been a swell in public support for a reduction in plastic use as well as numerous campaigns and stories on recycling, reusable cups, and drinking water stations.

Even so, we still produce and use plastic in almost every part of our lives; it's found in an abundance of items, including food packaging, toys, beauty products, clothes, and even things you wouldn't expect, like tea bags.

But here's the problem – plastic is durable, versatile and cheap to produce. These properties are responsible for the detrimental and devastating environmental impacts we're seeing, but they were once what made plastic so popular and sought after. Developed during the Industrial Revolution, it was classed as a wonder material. Its use exploded during the 1940s and 50s with the rise of mass production and a change in our lifestyles, where convenience took priority.

Because of its copious use, our throwaway culture and the vast amount of time it takes to degrade, plastic is polluting our rivers, oceans and countryside on a global scale, with consequences for us all. Some researchers suggest that by 2050 there could even be more plastic by weight in the oceans than fish.(2) But we've known about plastic's negative effects for a long time, so why has the public perception shifted in such a noticeable way this time?

If you compare these two narratives: the mid-century vs. the past year, it's two completely opposing stories. Our change in attitude to plastics is changing the way we live, shop and eat. In a matter of months, governments have brought in new laws, companies have altered entire manufacturing processes, and organisations have overhauled their business models. It's not just peripheral groups driving the narrative anymore; instead, it's coming from a large proportion of the public. We may suggest that *Blue Planet II* is responsible for this seemingly overnight shift in public attitudes, but the real reason is surely much more complex than that – and in reality, this shift was happening for a long time before *Blue Planet II* hit our screens.

What has been so fascinating about this behavioural shift is the relationship between society, science, business and policy – in this debate, they have been inextricably linked, feeding into one another and driving change together.

How can businesses, policy-makers and scientists ensure products of innovation are fit for purpose when societal, environmental and cultural expectations alter so rapidly?

I think what has happened in the past year with single-use plastics could serve as a useful lesson for the future. What might the word of the year be in 2019? New technologies are being developed all the time. We're now living in the Fourth Industrial Revolution, where artificial intelligence (AI) is pervading our lives and gene editing looks to follow suit. These technologies are promising to change the world for the better, but how can businesses, policy-makers and scientists ensure products of innovation are fit for purpose when societal, environmental and cultural expectations alter so rapidly?

Al is booming. A decade ago, intelligent machines only appeared in science fiction. Now Al is used in all sorts of ways, from predicting the stock exchange, to diagnosing illnesses, and helping us discover new books and music. Professor Jim Al-Khalili said during his recent Presidential Address at the British Science Festival: "the most important conversation of our generation is about the future of Al... it will dominate and dictate how we manage many pressing issues of our time".

Gene editing is seeing a similar trajectory. Although genetic engineering has been around since the 70s and was initially promising, the technology was ultimately too inefficient and difficult to apply in the lab and clinic. However, with the invention of the CRISPR-Cas9 technique just a few years ago, things have quickly changed. CRISPR-Cas9 is easy to use, cheap and incredibly versatile (sound familiar?), being described as "software for the genome". Since its invention, DNA has already been altered in plants and animals, such as mice and monkeys, and scientists have shown that it can also be done in human cells and embrvos.

# Public opinion is powerful and unpredictable

It's predicted that the clinical applications of this technology could be realised in just 10 years. (3) It has the potential to correct Huntington's disease and sickle cell anaemia, simply by removing the faulty genes. But it could also allow enhancement, giving people stronger bones, less susceptibility to cardiovascular disease, or a different eye colour – what we would call: "designer humans". You see where this could lead.

In the current political climate, we must acknowledge the two polarised viewpoints that surround AI and geneediting.

Over half of people are in favour of genetic engineering, but this could change.(4) It seems that public opinion is currently divided because the ethical implications are huge. Some view these innovations with the same hope and positivity that we did with plastic. Al machines could look after our elderly relatives or detect cancers better than any doctor could. But are there problems down the road that we cannot yet envision? On the other side, some people approach these technologies with fear and mistrust. Think: Terminator-style robots and designer babies. Whatever lies down the road, how can we better prepare for the advancements and changes that they will bring to our society?

In the current political climate, we must acknowledge the two polarised viewpoints that surround AI and gene-editing. The things driving the narrative are complicated and full of nuance. Public perception is shaped by lobby groups, the media, spokespeople and celebrities, workers, governments, businesses – the list goes on.

Since the Industrial Revolution, people have worried about new technologies taking away their jobs. When Mary Shelley's Frankenstein was published, people began to fear scientists that are "playing God". Adding to the mix are the varying levels of regulation between different countries. Some are perceived to heavily underregulate while others have too much "red tape", so while one country could take pause on a technology to consider the ethical implications, another may be steaming ahead regardless. China, for example, have been using CRISPR on human subjects since 2015,(5) whereas here in the UK, CRISPR trials in humans have been slow to gain legal approval.(6) There are also differences in cultures to consider. In Japan, AI is viewed more favourably due to the Shinto tradition, where they believe everything in the Universe, even robots, has a spirit. Whereas in the UK, we are wary and more suspicious of it.(7)

So, what can we do in our current positions? Having these conversations now is vital, and it's right that we involve the expertise of different technical and cultural spheres. These technologies, like plastics, have the power to change the relationship between citizens, businesses and policy makers, and we need government policy to reflect societal views. As discussed at the previous two Huxley Summits, "the will of the people" is a vital component for how new technologies are applied. If there is no trust, a poor narrative, few discernible benefits, and a lack of open dialogue, then we risk misunderstandings, fear, and potentially a public backlash like the one we saw with GM crops, which caused them to be banned across Europe. Ultimately, everything we do as scientists, policy-makers and business leaders relies on the public's perceptions – they vote with their feet and wallets, after all.

Essentially, I think public perceptions of technologies and wider behavioural change are tied up into three crucial components: firstly, an evidence-led grassroots movement from lobbyists and communities, such as environmental NGOs; secondly it requires media coverage with trusted, influential voices carrying the debate, which we've seen before with documentaries such as *Blue Planet II*, *Blackfish*, and *An Inconvenient Truth*, leading to a viral social media narrative and a constant place on the news agenda; thirdly we need to offer alternatives, like having access to reusable coffee cups.

The Fourth Industrial Revolution holds unprecedented amounts of potential. It's disrupting almost every industry in every country. Reflecting on discussions from the past Huxley Summits, the public has always been at the heart of our debate. We must listen to their concerns and ultimately drive innovation for their benefit, building resilience to withstand risks that are still unknown to us. But it's a fine balancing act – will the public embrace new technologies and possibly change the course of nature, or reject them and miss their array of opportunities? Whichever way the coin falls, we need to implement the right messages, policies, products and funding that reflects the public's important and influential views and behaviours. As scientists, policy makers, business leaders, and global voices, we must shoulder this responsibility.

By using the tools of successful campaigns from the past and present, we can help propel the world towards a positive future; a world made healthier, cleaner and fairer by technology. This is what the Huxley Summit is all about today – setting up the conversations and bringing people together so that we're ready for what's ahead of us, whatever way the tide changes.

### References

(1) https://www.collinsdictionary.com/woty

(2) https://www.ellenmacarthurfoundation.org/ publications/the-new-plastics-economy-rethinking-thefuture-of-plastics

(3) https://www.bloomberg.com/news/articles/2018-08-23/ crispr-inventor-doudna-sees-first-human-therapy-5-10years-away

(4) https://www.newscientist.com/article/2179920-revealedwhat-the-uk-public-really-thinks-about-the-future-ofscience/

(5) https://qz.com/1185488/chinese-scientists-used-crisprgene-editing-on-86-human-patients/

(6) https://www.newscientist.com/article/2148057-why-hasa-uk-team-genetically-edited-human-embryos/

(7) https://www.wired.com/story/ideas-joi-ito-robotoverlords/





# **Ben Taylor**

Ben Taylor is an Assurance Technology partner in EY UK, with a role to bring innovation to clients, and to help disrupt and transform EY's own business.

Humanity's ability to innovate has been critical to our success and it remains essential to support continued improvements in the way we live. However, when left unchecked the same innovations can bring with them profound risks – the unintended consequences. Society's collective failure to adequately address the unanticipated consequences of innovation has played a role in creating a crisis in public trust.

For example, plastics were perceived to be a super-innovation bringing benefits to incalculable aspects of our lives, but public opinion is shifting rapidly against them. How can we better anticipate and properly address the risks of even more disruptive innovations such as artificial intelligence? What road should we take with genome editing? How can we measure levels of trust and respond more quickly to changing public opinion?

Perhaps the answer lies in the increased availability of data and instantaneous interconnectivity which allows us to listen to the debate around benefits and disbenefits of emerging technologies in real time. An even more important development is the ability of that technology to apply different lenses of analysis to vast amounts of data to support strategic and operational decision making.

How can we better anticipate and properly address the risks of even more disruptive innovations such as artificial intelligence?

Trust is one such lens of analysis and the ability to measure trust in real time allows companies and public institutions to rapidly respond to potential risks and unanticipated outcomes of new innovations. But for this to work, we have to believe that trust matters, especially for the long-term success of the sectors who will drive much of the new innovation.

New technologies will continue to emerge but only those organisations that have the license of public trust will be able to fully reap the benefits of innovation.

Over the past 18 months, EY has participated in the Embankment Project for Inclusive Capitalism along with 31 of the world's leading companies and investors. The objective of the project was to look beyond traditional financial measures of organisational performance to find more meaningful ways to articulate how companies create longterm value, taking into account the needs of wider stakeholder groups, such as employees, consumers and society, not only shareholders.

Through this project we identified a correlation between movements in trust and financial performance. More importantly, we have also found that trust anticipates financial performance – in other words it functions as a leadindicator for future financial performance. In that sense, we have proven that trust matters as it relates to long term viability and therefore capacity to innovate sustainably over time. Earlier this month the Embankment Project for Inclusive Capitalism published their results, which we hope will pave the way for a more consistent and holistic way of measuring and building trust in business and public institutions.

I am optimistic that this work, combined with the advent of new technologies and smart analytics, will help us learn more quickly from past mistakes, and build trust for a better world. In the meantime, we should take confidence from the fact that debate in mainstream and social media about organisations' individual stances towards innovations such as artificial intelligence is already shaping their trust profiles. New technologies will continue to emerge but only those organisations that have the license of public trust will be able to fully reap the benefits of innovation.

# Huxley Summit 2018: Half-time review

# Key moments of the first six months of 2018

On 28 June 2018, a panel of experts from science, business, policy and the media addressed attendees at the Half-time review event at Digital Catapult in London. They revealed their stand-out moments from the last six months – from the public outcry about plastic pollution to Mark Zuckerberg's Senate hearing – and shared their predictions of what we can expect in the latter half of the year.

# President Xi Jinping becomes China's President for Life

# EU blocking Britain's space industry from being part of the Galileo project

Peter Barron, Former VP of Communications at Google EMEA and former Editor of BBC's Newsnight

On 11 May, China took a monumental step to change their constitution by abolishing term limits for Presidency. This means that Xi Jinping can essentially remain President for the rest of his life. He is a man with a plan; a plan that involves technology. He aims for China to be a global leader in 20 technologies by 2025, and it's working – China are making extraordinary advances. By 2020 they will have caught up with us, by 2025 they will be better than us, and by 2030 they will dominate industries, in AI especially. At this point in time, we have a western tech industry under intense political and media pressure, but China has an unregulated tech industry that's heavily invested in, with a rigorous 10-year plan.

Dr Helen Czerski, Physicist, oceanographer and broadcaster

Galileo is the EU's rival to the US's Global Positioning System (GPS). Because of Brexit's transition period terms, the EU has started to block Britain's part in the project due to security aspects of the programme being on a "need-to-know" basis, which Britain will no longer have a right to. It begs the question of who controls the data and who has access to it? This is especially pertinent as satellite technology is becoming more essential to business and the public. The number of satellites going into low orbit and looking back at the Earth is huge, and they're providing vast amounts of data. They're showing us what our planet looks like and are turning it into a village where everyone knows everyone's business - it'll be hard to hide anything.



# Tackling single-use plastic pollution and the launch of the 25 Year Environment Plan

Clare Moriarty, Permanent Secretary for the Department for Environment, Food & Rural Affairs

Across society there has been an increased understanding and recognition of the impact of plastics on marine life. We have already taken on lots of action - the microbeads ban, the 5p charge on plastic bags (which removed 9 billion plastic bags from the system), but we know plastic use will still treble in a decade. It continues to be a huge imperative. Therefore, my key moments are the *Blue Planet II* series and the 25 Year Environment Plan, which came out on 11 January 2018. This contains the commitment to remove avoidable plastic waste by 2042. Within days we saw supermarkets come out to make their own commitments. David Attenborough himself recently said he was "astonished" by the response to Blue Planet II regarding our attitude and behaviour changes to single use plastics.

# Mark Zuckerberg telling the Senate committee: "Senator, we run ads"

Hugo Rifkind, Columnist for The Times

My key moment is the Facebook and Cambridge Analytica Congressional hearings, where Mark Zuckerberg appeared before the Senate. An 84-year-old Senator from Utah asked how Facebook makes money from a service that users don't have to pay for, and Zuckerberg replied, incredulously: "Senator, we run ads". It's a phrase that is being used across the tech industry at the minute, highlighting the disconnect between those within the sector and those outside. The problem here though is that these companies are ignoring those outsiders. People just don't understand that Facebook runs ads, and terrifyingly, some of those people are running the world. There's a real power gap. And if nobody outside of the sector understands how these companies work, will they ever be capable or willing to regulate themselves? Democracy can't touch them.

# Samira Ahmed

Samira is a broadcaster and writer. She presents *Front Row* on BBC Radio 4, *Newswatch* for the BBC News Channel, and *The* 

Proms on BBC4. Her documentaries for BBC Radio 3 and 4 include *HG* and *the H Bomb* and a film for the Science Museum's Mind Maps exhibition. Samira is on the advisory board of the National Science and Media Museum. She won the Stonewall Broadcaster of the Year award. Samira has worked as a reporter on *Newsnight*, and *The Today Programme*. She writes regularly for newspapers and magazines including *The Guardian*, *The New Statesman*, *The Big Issue* and *The New European*.

# Professor Jim Al-Khalili OBE FRS

Jim is a scientist, author and broadcaster. He is a professor of Physics at the University of Surrey where he also holds a chair in the

Public Engagement in Science. He is a fellow of the Royal Society and the current President of the British Science Association. He presents *The Life Scientific* on Radio 4 and recently presented *The Joy of Al* on BBC Four.

# David Bucknall David is the Gro and Chief Finan of Group Finance

David is the Group Controller and Chief Finance Officer of Group Finance at BP. He joined BP in 2006 as Chief Risk Officer for integrated

supply and trading. In 2010, David became Chief of Staff for the Group CFO, gaining valuable experience during the activity that followed the Deepwater Horizon incident. He was subsequently Group Treasurer from January 2012 to December 2014. Prior to joining BP, David was the CEO and co-founder of an energy trading and risk management software company.

# Emma Howard Boyd



Emma is Chair of the Environment Agency and originally joined the board in July 2009. She currently serves on various boards and

advisory committees including the Future Cities Catapult (Vice Chair), ShareAction (Chair), and Menhaden Capital PLC (Board member).

Her previous roles include Director of Stewardship at Jupiter Asset Management and Vice Chair and Chair of the UK sustainable investment and finance association (UKSIF).

# Yasmin Alibhai-Brown Yasmin is journalist, aut and broadcaster who

Yasmin is journalist, author and broadcaster who comments on politics, multiracial societies, faith and

human rights. She writes for the International Business Times, the i newspaper and the Mail. Yasmin has won many journalism prizes, including the Orwell Prize in 2002 and the Broadsheet Columnist of the Year in 2016. She has authored many books including her most recent, *Exotic England* (Portobello Books, 2015), a portrait of what Britishness really means.

# Liz Bonnin Liz is a scier

Liz is a science and wildlife presenter who hosts BBC shows and documentaries. She has a degree in

Biochemistry and a Masters in Wild Animal Biology and Conservation. Liz started her career by presenting BBC One's *Top of the Pops*, before working on many science programmes including including *Galapagos*, *Wild Alaska Live* and *Bang Goes The Theory*. Her new BBC One documentary, *Drowning in Plastic*, was broadcast in October 2018.

hoto by Andrew Crowley.

# Marisa Drew

Marisa is the CEO of the Impact Advisory and Finance (IAF) Department of Credit Suisse based in London. She is a member of

the Credit Suisse's Global Reputational Risk Committee and the UK Conduct and Ethics Board. In 2013, Marisa was recognised by the BBC as one of the Most Powerful Women in Britain and by *Fortune Magazine* as one of the 50 Most Powerful Women in International Business. In her spare time, Ms Drew is an active angel investor and has interests ranging from Fintech to art disrupters to restaurants.



# Harry Gaskell

Harry is EY's UK and Ireland Chief Innovation Officer. He ensures that EY uses disruptive technologies to support client transformations

and to launch new innovative services for EY. He is member of EY's UK&I Leadership Team, and was the Leader of Diversity and Inclusion for EY in the UK from 2010-2017. Harry is the Chair of the Employers' Network for Equality and Inclusion (enei) and is a member of the Court of Governors of the University of the Arts, London.

# Zoe Laughlin

Zoe is the co-founder and Director of the Institute of Making at University College London. Working at the interface of the science, art,

craft and design of materials, her work ranges from formal experiments with matter, to the art of making the best spoon in the world. She holds an MA from Central Saint Martin's College of Art and Design, and a PhD in Materials from King's College London. She can often be found on television or radio celebrating all aspects of materials and processes of making including on BBC Two's *The Big Life Fix* and the BBC Four documentary *The Secret Life of Landfill: A Rubbish History*.

# Baroness Lucy Neville-Rolfe

Lucy is the Chair of Assured Food Standards and is a Non-Executive Director of Capita plc. She is a Conservative Member of the House of

Lords and served for three years as a Government Minister as Commercial Secretary to the Treasury and Minister of State for Energy and Intellectual Property. Lucy was a member of the Board of Tesco plc from 2006 until 2013, serving as Executive Director, Corporate & Legal Affairs, having previously held senior management positions at Tesco since 1997. She has also been Non-Executive Director at ITV plc, PWC, 2 Sisters Food Group and Metro AG.

# R or cc

Rory is the Vice Chairman of Ogilvy in the UK and co-founded a behavioural

**Rorv Sutherland** 

science practice within the agency to 'unseen opportunities' in consumer behaviour. He writes regular columns for the *Spectator*, *Market Leader and Impact*, and also occasional pieces for *Wired*. He is the author of two books: *The Wiki Man* and *The Surprising Power of Ideas That Don't Make Sense* to be published in the UK and US in March 2019. His TED talks have been watched by nearly 9 million people.

# Jo Swinson MP



Jo is the MP for East Dunbartonshire and is Liberal Democrat Deputy Leader and Shadow Foreign Secretary. She was a Business Minister

and Minister for Women and Equalities in the Coalition Government (2012-2015). In 2018, Jo helped set up a Technology and Artificial Intelligence Commission to explore how society can make the most of the possibilities that this revolution brings and ensure that all of society stand to benefit from them. She has written a book, Equal Power: Gender Equality and How to Achieve It, which was published by Atlantic Books in early 2018.

# Ulta Scie

Dr Ultan McDermott

Ultan took up his role Chief Scientist in Oncology at AstraZeneca in 2018. He is a clinical scientist and has a lifelong interest in

understanding how cancer genomes affect response in the clinic to therapy, and more recently the use of genetic screens to identify mechanisms of drug resistance in cancer. Ultan joined the Wellcome Sanger Institute in 2009 as a Group Leader. Previously, he worked as a postdoctoral fellow with Jeff Settleman at Massachusetts General Hospital Cancer Center. He is a Fellow of the Royal College of Physicians and continues to practice as an oncologist at Addenbrooke's Hospital in Cambridge.

# 20)

Sally Phillips Sally is a comic actress and writer who is well known

for her roles in Smack the Pony, Miranda and The Green Wing, and for her

performance as "Shazzer" in the British rom-com trilogy of *Bridget Jones*. Sally has also fronted and been heavily involved in a BBC documentary titled, *A World Without Down's Syndrome?*, in which she wades into the emotionally charged debate about a new screening test that is said to detect Down's syndrome in 99% of pregnancies and explores what effect the test could have on our society. *Photo by Ruth Crafer.* 



# Kriti Sharma

Kriti is the Vice President for Artificial Intelligence at Sage Group. She is an expert and leading global voice on Artificial Intelligence and

its impact on society and the future of work. She built her first robot at the age of 15 in India and has been building AI technologies to solve global issues ever since, from productivity to education to domestic violence. In 2017, she was selected in the Forbes 30 under 30 in Tech list and, in 2018, was made a UN Young Leader.

## Ben Taylor



Ben is an Assurance Technology partner in EY UK, with a role to bring innovation to clients, and to help disrupt and transform

EY's own business. He is a leading voice on the trust agenda in business – focused on how changes in corporate governance, corporate reporting and emerging technology affect long term business performance. Ben has worked with global multi-nationals including Vodafone, Shell and Centrica, helping to develop data strategies, technologies and skills.

# Speakers

# Sponsors and partners

# Michael Wignall

Michael is the Chief Technology Officer for Microsoft UK and is responsible for all aspects of the UK technology

strategy. This includes supporting the implementation and use of technology by commercial and public sector organisations, and acting as a catalyst for digital transformation. Prior to joining Microsoft, Michael worked as Chief Technology Officer in the telecoms/tech start-up space after emigrating from Australia where he was a high-voltage systems engineer.

# T

## Lord David Willetts

David is Chair of the British Science Association and Executive chair of the Resolution Foundation as well as a visiting Professor at

King's College London. He was Minister for Universities and Science and has served previous roles in the Government regarding parliament, policy and finance. He has also written widely on economic and social policy with his most recent book, *A University Education*, published in November 2017.

# Professor Alison Woollard

Alison is an Associate Professor in the Biochemistry Department at University of Oxford where she leads

a research team working on the developmental genetics of the nematode worm *Caenorhabditis elegans*. She presented the 2013 Royal Institution Christmas Lectures series *Life Fantastic*, broadcast on BBC4, and since then has taken part in a diverse range of public engagement activities, from pop festivals to stand-up comedy. Alison is a trustee of the Royal Institution and Vice President of the Genetics Society.

# Dr Linda Yueh

Linda is an economist, broadcaster, and author. She is a Fellow in Economics at St Edmund Hall, University of Oxford, and Adjunct Professor

of Economics at London Business School. Previously, she was Chief Business Correspondent for BBC News and host of *Talking Business with Linda Yueh* for BBC World TV and BBC News Channel. Her latest book, *The Great Economists: How Their Ideas Can Help Us Today* was published by Viking/ Penguin Random House in 2018. Linda is a Non-Executive Director of FTSE 100 listed Rentokil Initial and was previously on the boards of JP Morgan Asian Investment Trust and Baillie Gifford's Scottish Mortgage Investment Trust.

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We aim to create a positive role for alcohol in society by reducing harmful drinking, building thriving communities and continuously reducing our environmental impact.





Genomics England is a company set up and owned by the UK Department of Health to run the 100,000 Genomes Project, which aims to sequence 100,000 genomes from NHS patients. This flagship project will sequence 100,000 whole genomes from NHS patients with rare diseases, and their families, as well as patients with common cancers.

The Royal Society of Chemistry works to shape the future of the chemical sciences – for the benefit of science and humanity. With over 50,000 members and a knowledge business that spans the globe, we are the UK's professional body for chemical scientists; supporting and representing our members and bringing together scientists from all over the world. As a not-for-profit organisation with more than 175 years of heritage and an ambitious international vision for the future, we promote, support and celebrate chemistry.

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# About The British Science Association

The British Science Association is a charity that wants to see science at the heart of culture and society. Through our work in education, public engagement and collaboration with other sectors, we inspire people to get involved in all areas of science — whether it be natural, social, technological, or otherwise. We have established major campaigns and initiatives across the UK, including British Science Week, the British Science Festival, and the CREST Awards. Our UKwide network of volunteer-led branches run thousands of events each year and we bring together thought leaders, opinion formers and professionals from across industry and society, including business, politics, sport and the arts. Society's biggest issues cannot be solved by science alone. By unlocking the potential of a more diverse group of people, we increase our ability to tackle some of the world's most intractable challenges and shape our future for the better.

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