

‘Engaging the public; lessons from 200 years of the Royal Institution’

Katherine Mathieson, Director, Ri
Tuesday 15 October 2024

Webinar: I-SEE Sustainable Energy and the Environment,
University of Bath

Tuesday 15 October 2024: **Katherine Mathieson, Director, Royal Institution**
‘Engaging the public; lessons from 200 years of the Royal Institution’

A major motivation for many researchers is to improve people’s life chances through improved sustainability and technology. The opportunity to ‘make a difference’ through public service is often key to researchers’ career choices and fulfilment. But who are ‘the public’ that we serve? What do they think about science and scientists? How can we involve them more fully in the research endeavour? Find out how the Royal Institution works with and for the public, on everything from schools shows and modernising our Grade 1 listed building to the infamous Christmas Lectures.

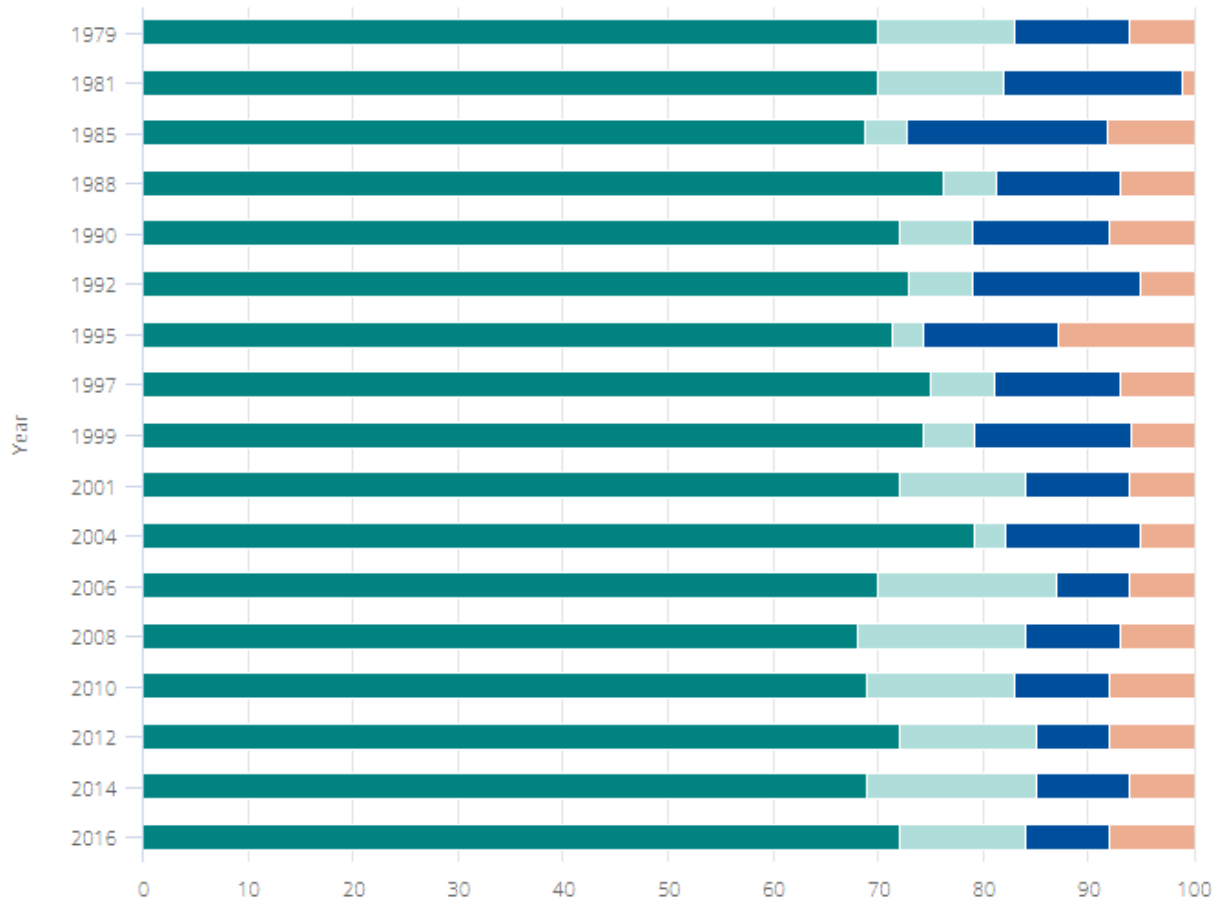
Public attitudes to science

US: [National Science Foundation 2018](#)

UK: [Department for Science & Technology \(DSIT\), 'Public Attitudes to Science' 2019](#)

Europe: [Eurobarometer 2021](#)

Global: [Wellcome Monitor 2018](#)



- Benefits of scientific research strongly/ slightly outweigh harmful results
- Benefits of scientific research are about equal to harmful results
- Harmful results of scientific research strongly/ slightly outweigh benefits
- Don't know

[Report - S&E Indicators 2018](#) |
[NSF - National Science Foundation](#)



Public attitudes to science

Doctors and nurses are most trusted for health advice.

- 73% of people worldwide would trust a doctor or nurse more than any other source of health advice, including family, friends, religious leaders or famous people.
- Across the world, people with the lowest household income have less confidence in hospitals and healthcare systems.

What we know about science – and how we think it benefits society.

- Overall, 72% of people globally trust scientists.
- Over half (57%) of the world's population don't think they know much – if anything – about science.

More than three-quarters of the world's population agree that vaccines are safe and effective.

- Worldwide, 79% of people agree that vaccines are safe and 84% agree that they are effective.
- Bangladesh and Rwanda have the strongest confidence in vaccines – with almost all people in both countries agreeing that vaccines are safe, effective and that it is important for children to be vaccinated.

Significant gap in what men and women say they know about science.

- Men are more likely to claim greater knowledge of science than women. This gender gap exists even when men and women report equal levels of science attainment.
- Globally, 49% of men worldwide say they know 'some' or 'a lot' about science, compared with 38% of women.

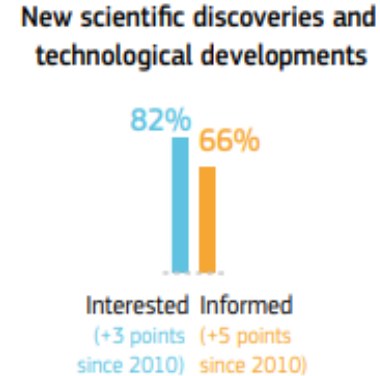
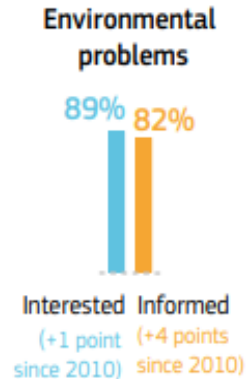
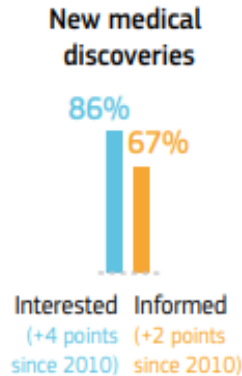
Public interest in science - Europe

Interest and knowledge

Being interested in and feeling informed about science and technology

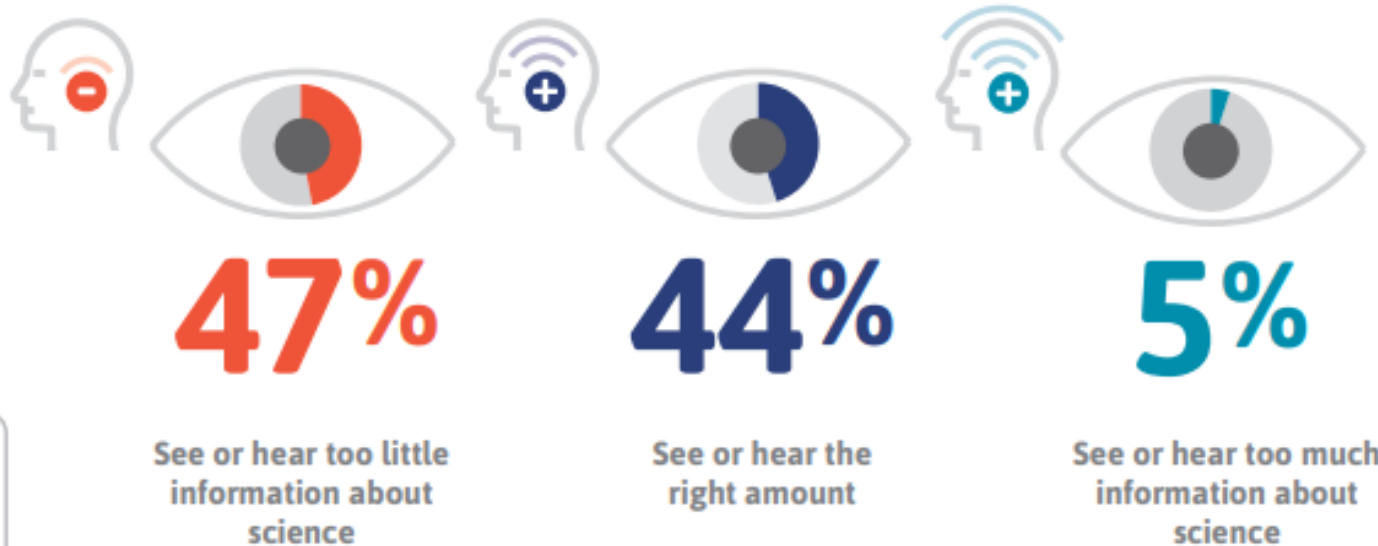


EU citizens are interested in various fields... But interest does not always translate to feeling informed



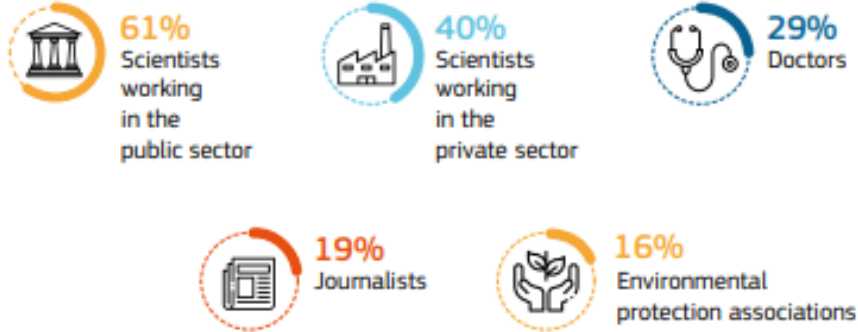
Public interest in science - UK

There is an appetite for more information about science



Public trust in science - Europe

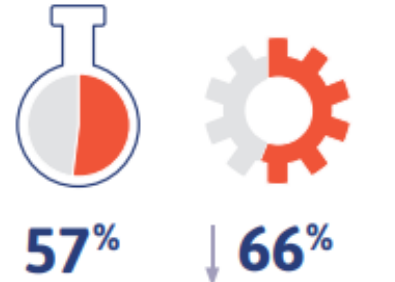
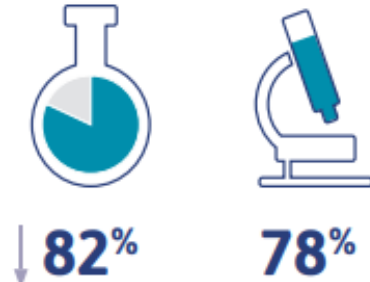
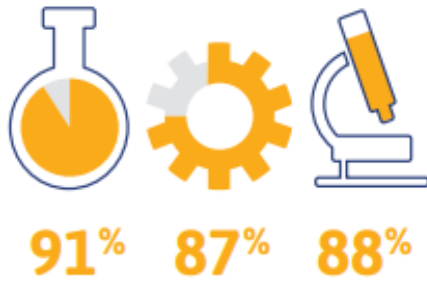
EU citizens think the following are most qualified to explain the impact of scientific and technological developments:



Public trust in science - UK

Trust **Levels of trust in scientists/engineers is linked to where they work**

% who trust each of these to follow professional rules and regulations



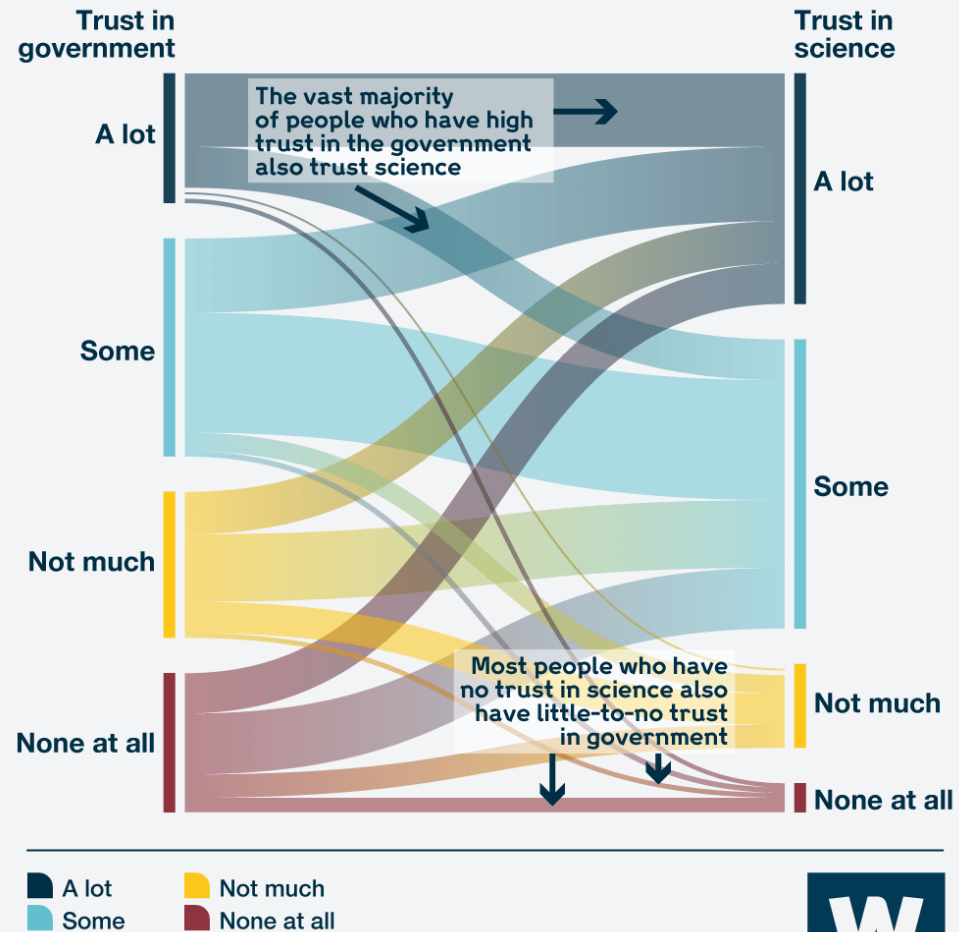
88% in 2014

74% in 2014

Public trust in science

[Wellcome Global Monitor 2018 | Reports | Wellcome](#)

Image credit: John Burns-Murdoch/Wellcome



What EU citizens think of scientists



The characteristics that best describe them

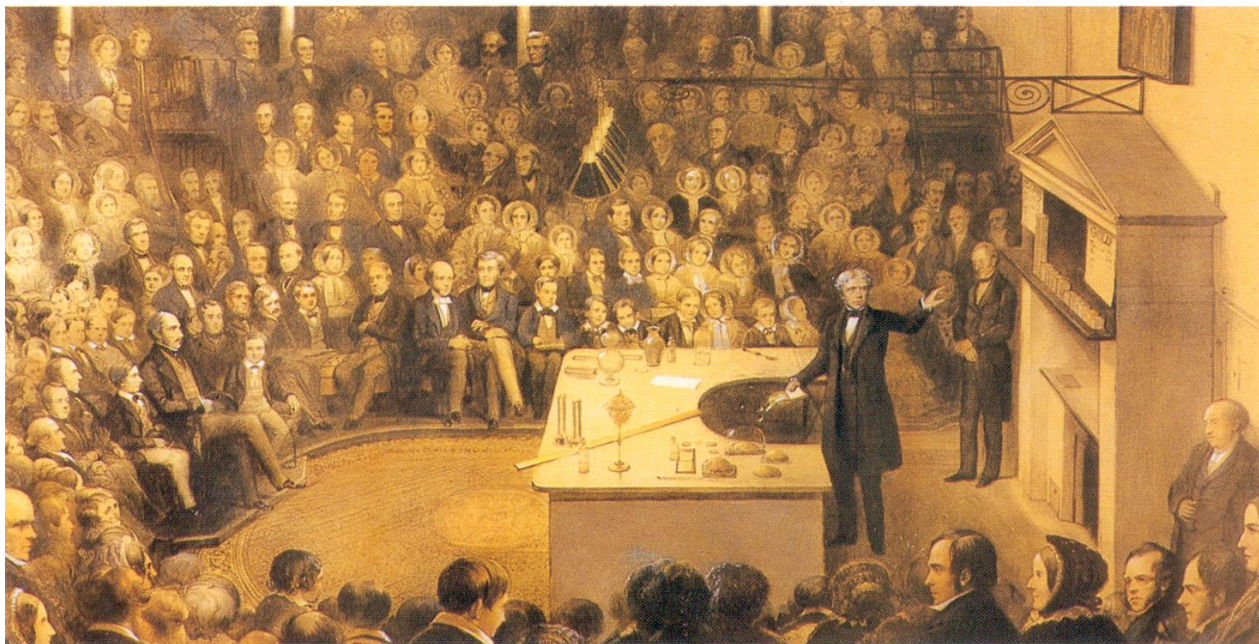


The qualities they'd like to see





Photo credit: Matt Chung



Faraday delivering a Christmas Lecture on 27 December 1855 before Prince Albert, Prince of Wales (later Edward VII) and Prince Alfred.
Painted by Alexander Blaikley

The Objects of the Institution are:

- (a) to diffuse the knowledge and facilitate the general introduction of useful mechanical inventions and improvements;
- (b) to teach by courses of philosophical lectures and experiments the **application of science to the common purposes of life;**
- (c) to promote chemical science by experiments and lectures for improving arts and manufactures;
- (d) to discover the uses of the mineral and other natural productions of this country;
- (e) to diffuse and extend useful knowledge in general.



1. Pathway to careers – the ‘talent pipeline’

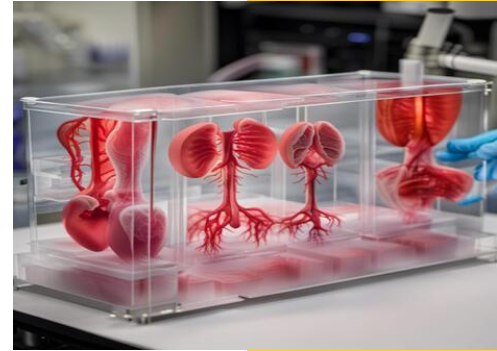


1. Pathway to careers – the ‘talent pipeline’

2. Informed citizen

1. Pathway to careers – the ‘talent pipeline’
2. Informed citizen
3. **Society’s choices**

1. Pathway to careers – the ‘talent pipeline’
2. Informed citizen
3. Society’s choices
4. **Awe & wonder**



- 1. Pathway to careers**
- 2. Informed citizen**
- 3. Society's choices**
- 4. Awe & wonder**

Our vision

Science is for everyone.

Our mission

The Ri is a charity that brings the public and scientists together to share their interest and passion for science. We empower people to explore and get involved. We are a home for science and everyone is welcome.

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Our belief

Science transforms lives and underpins the modern world – from health to the latest technology, the environment, and the furthest reaches of our universe. Science is part of culture, but not everyone has the same opportunity to engage. The Ri believes there should be equitable access to science, and that people's desire to engage with science and scientists should be nourished.



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Royal Institution Christmas Lectures

Great scientists, even greater questions. Mind-expanding talks and hands-on science, inspiring children and adults alike since 1825.



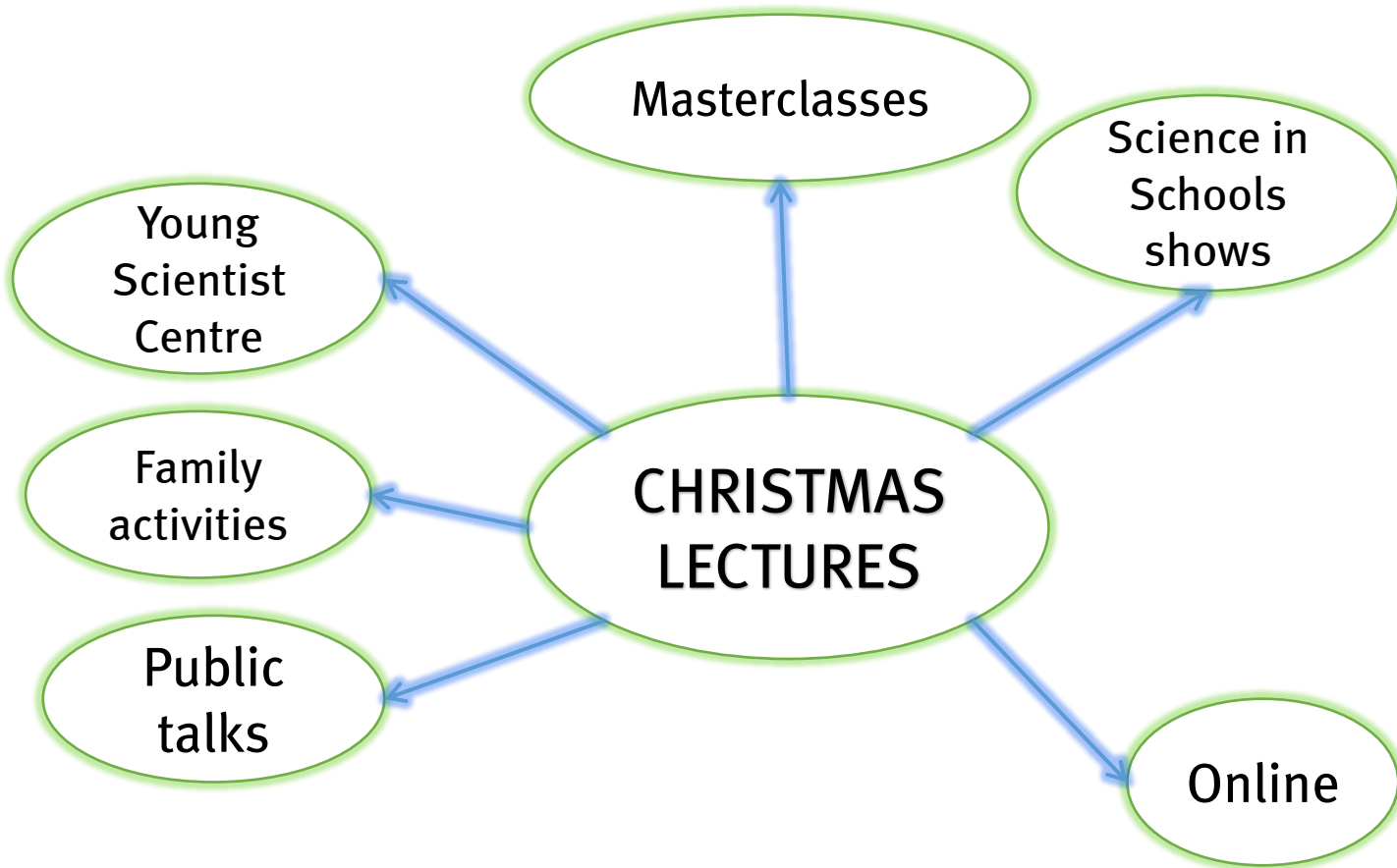
The Royal Institution
Science Lives Here



@Ri_Science









L'Oréal Young Scientist Centre

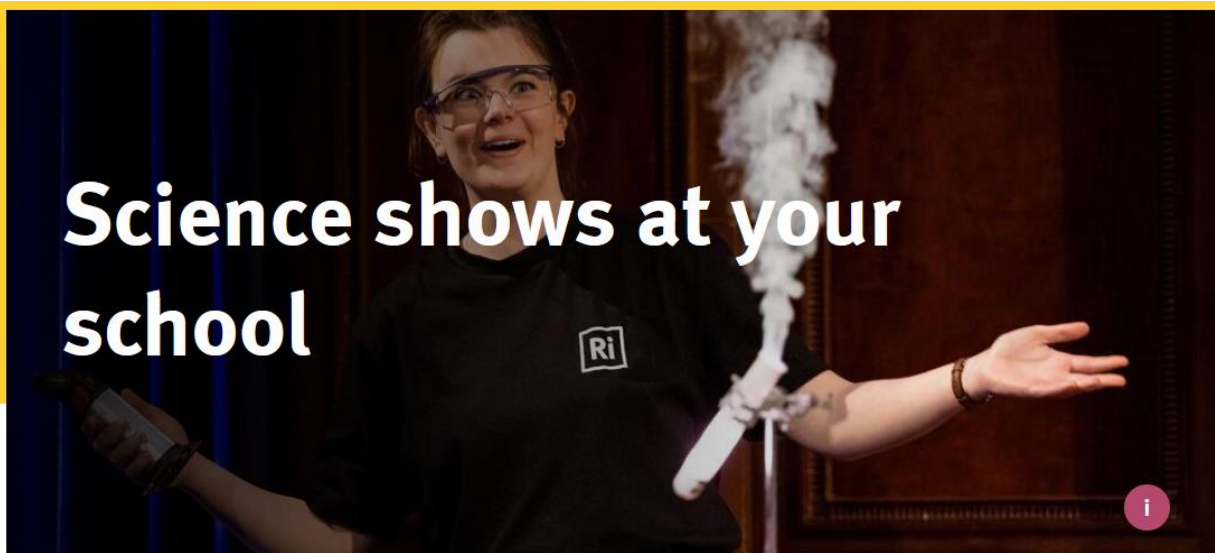
Watch your students become scientists for the day at the L'Oréal Young Scientist Centre.

A close-up photograph of a person's hands holding a globe. The globe is partially covered by a colorful map overlay, possibly a weather or climate map, with various colors like green, purple, and yellow. The person is wearing a red and black jacket. The background is slightly blurred, showing other people in a classroom or workshop setting.

Ri Masterclasses

Discover Ri Masterclasses, our series of hands-on, interactive, extracurricular workshops for young people across the UK.

Science shows at your school



The Royal Institution
Science Lives Here

<https://www.rigb.org/learning/science-shows-your-school>



@Ri_Science



In-person

Family Fun Day

Family Fun Day: Amazing animals

Sun 27 Oct 2024

Join us for a day of animals facts and fun for the whole family.

[Read more](#)



In-person

Talks and shows

50 years of The Rubik's cube

Sat 16 Nov 2024

Maths and magic collide in the fascinating world of Rubik's Cube.

[Read more](#)



In-person

Talks and shows

CHRISTMAS LECTURES rehearsal night 2024

Tue 03 Dec 2024

Help us try out demo and experiment ideas and get a sneak peak at this years' lectures supported by CGI.

[Read more](#)



In-person / Livestream

Talks and shows

The future of recycling: One bin to rule them all

Mon 14 Oct 2024

Mike Shaver explores plastic's role in sustainability, aiming for systemic recycling solutions and authenticity to avoid...

[Read more](#)



In-person

Talks and shows

Designing the James Webb Space Telescope

Sat 19 Oct 2024

NASA's Astrophysics Division Director Mark Clampin shares his experiences designing the James Webb Space Telescope, and what the...

[Read more](#)



In-person / Livestream

Talks and shows

An Evening of Unnecessary Detail

Sun 20 Oct 2024

Join Festival of the Spoken Nerd and friends for an evening of science, songs, stand-up maths and more!

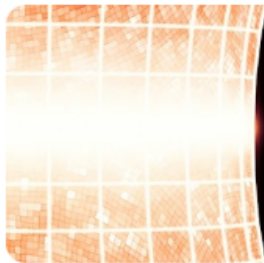
[Read more](#)



Become an Ri Member

Join our community of like-minded science lovers, and get half-price tickets and other benefits.

Join now



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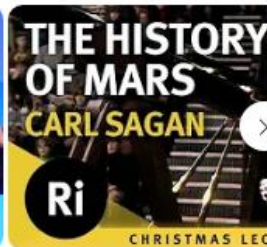
The most surprising discoveries from our universe – with Chris Lintott

291K views • 5 months ago



The science and language of skateboarding - with Rodney Mullen

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The history of Mars - Carl Sagan's Lectures 3/6

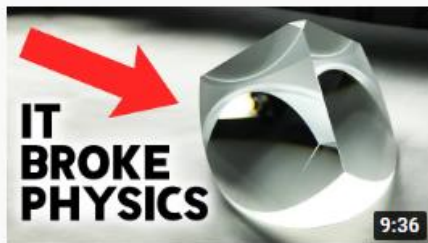
18K views • 1 month ago

@Ri_Science

YouTube



 Groundbreaking Proton Discovery That May Rewrite...
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2:17

We're celebrating women in STEM on Ada Lovelace Day!...

646 · 15 comments · 41.5K plays



1:07

New podcast episode Asteroids, astrophysics and...

139 · 5 comments · 17.7K plays



0:39

'They're likeable. They're knowledge. They're funny....

78 · 8 comments · 12.6K plays



0:38

Last chance to book Experience the power and...

85 · 1 comments · 12.4K plays



Royal Institution of Great Britain

814.7K followers

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ri_science ✓ The Royal Institution

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Message



99 Following 96.5K Followers 800.9K Likes

Independent charity with fancy name.

All about science 🧑🏫 #XmasLectures

rigb.org



Research at the Ri



<https://lims.ac.uk/about/>



Our Partnership with Imperial

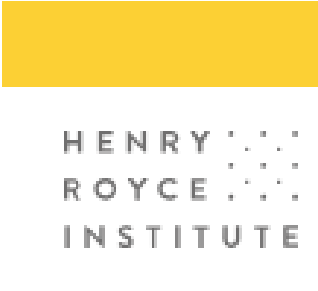
- Previously the Centre for Climate Change Innovation (CCCI) and renamed Undaunted early 2023
- Undaunted is a hub for the UK's climate innovation community, creating new routes into green entrepreneurship and supporting the acceleration of startups and SMEs tackling climate change



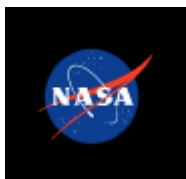
UCL Biomagnetics Healthcare Laboratory



<https://www.ucl.ac.uk/medical-physics-biomedical-engineering/research/centres-institutes-and-funded-projects/healthcare-biomagnetics-laboratory>



External events



Retrofitting project

- £4.35m GLA funding to retrofit Ri premises
- Announced by Deputy Mayor of London Shirley Rodriguez on 08/12/2022
- Aims:
 - Deliver a Plan for the Road to Net Zero by 2030 for the building
 - Reduce our use of carbon by 35%
 - Improve our EPC rating from a G to a D (possibly C)
 - Provide an inspiring and dynamic space for Undaunted to be housed that will attract cleantech business to the co-working space to create the first phase of the cleantech hub

DocuSign Envelope ID: 45570226-990D-407E-85C7-4511FE0218E1

Summary sheet for publication
In compliance with the Local Government Transparency Code 2015

The Greater London Authority must publish details of all grants to voluntary, community and social enterprise organisations. By signing the grant agreement above, organisations are also accepting the publication accuracy.

DocuSign Envelope ID: 45570226-990D-407E-85C7-4511FE0218E1

Overarching grants p
Description/Purpose Brief explanation
The grant is for a tot
The grant is awarded
The grant covers the following time period
It is awarded to:
The recipient is:
Company or charity r number:
It was awarded by:
The award of this gra formally approved by

IN ORDER FOR THE
CODE,
THE GLA OFFICER
GOVERNANCE TEA

(Jack Pascoe jack.pascoe@

GREATERLONDONAUTHORITY

AGREEMENT FOR THE PROVISION OF FUNDING RELATING
TO
REDUCING THE ENVIRONMENTAL FOOTPRINT OF THE
ROYAL INSTITUTION PREMISES

between

The Greater London Authority

-and-

The Royal Institution of Great Britain

Historic building

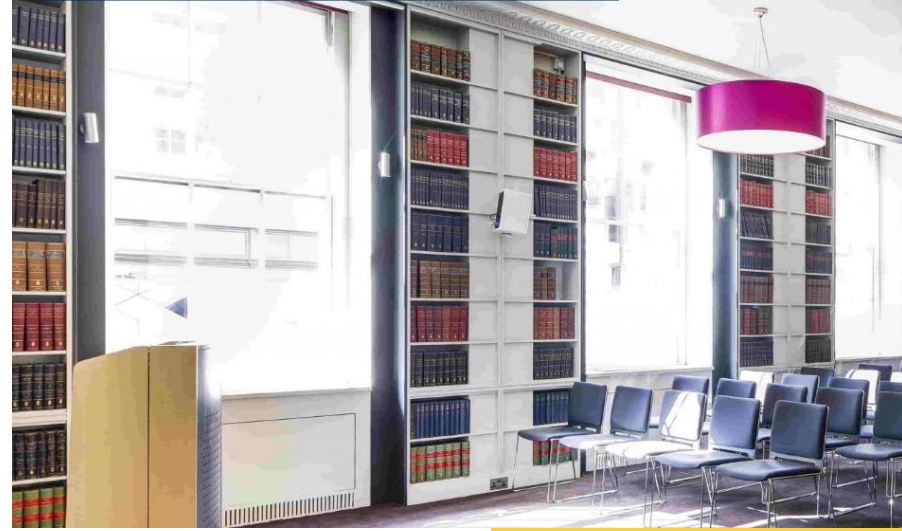


Historic building

Library



Conversation Room



Steering Group

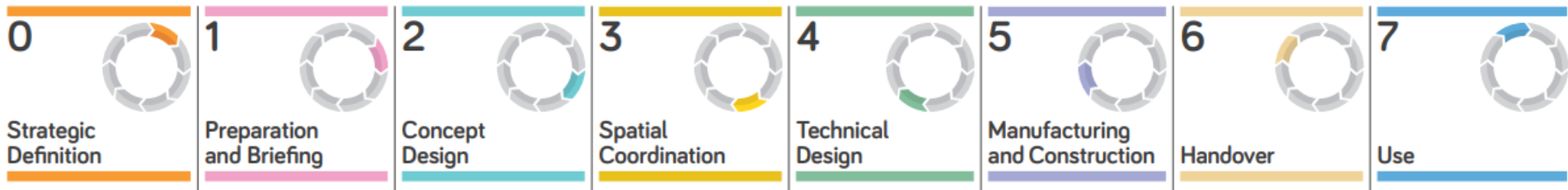
Richard Templar (chair)	Professor Emeritus of Climate Innovation	Imperial College London
Harriet Wallace	Director of Sustainability Strategy	Imperial College London
David Goatman	Global Head of Energy and Sustainability Services	Knight Frank
Alice Moncaster	Professor of Sustainable Construction	Cambridge University
Lisa Fairmainer	Head of London Plan and Growth Strategy	GLA
Edward Waller	Conservation Adviser	The Georgian Group
Sarah Freeman	Inspector of Historic Buildings and Areas, Government Historic Estates Unit	Historic England

RIBA stages



RIBA
Plan of Work
2020

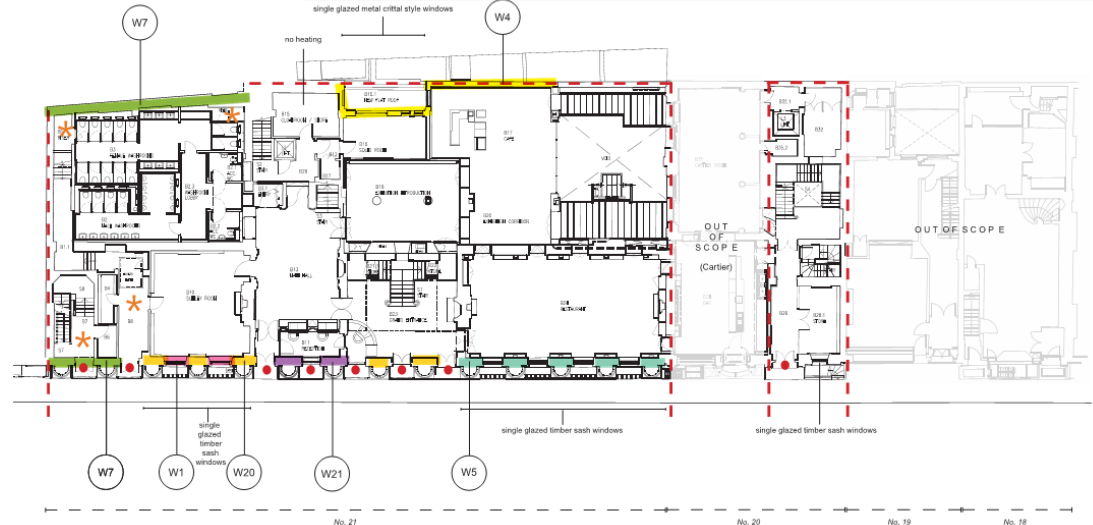
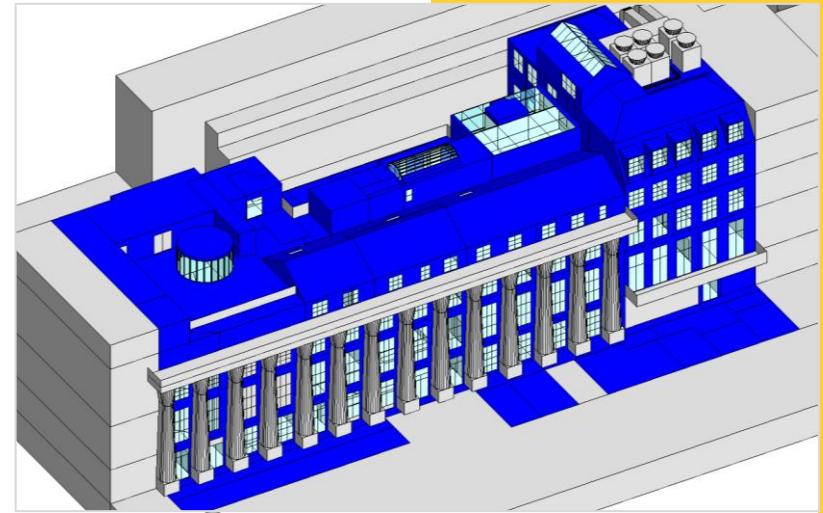
The RIBA Plan of Work organises the process of briefing, designing, delivering, maintaining, operating and using a building into eight stages. It is a framework for all disciplines on construction projects and should be used solely as guidance for the preparation of detailed professional services and building contracts.



[RIBA Plan of Work \(architecture.com\)](https://www.architecture.com/RIBAPlanofWork)

Project FootpRint

- Surveys of the existing systems
- Dynamic energy modelling of the building to establish a baseline – a ‘digital twin’
- Appraisal of existing information (for example energy statements)
- Assessment of scope options



Budget

Scope Element	Description
Heat Pump replacement & enabling works	Replacement of existing gas fired boiler heating plant and chiller with new polyvalent heat pump system
Additional plant infrastructure replacement	Upgrade of existing mechanical systems due for replacement in line with validation survey
Controls improvements	New site wide BMS system to integrate all existing plant, to allow for efficient control and monitoring of building systems
Scaffold costs	A working scaffold to the front elevation. A 40% allowance for the same scaffold to the rear, this will help access to different roof levels. A loading tower to the North End of the front elevation. Dependent on scope
Sub Total	
£2,382,000	

Royal Institution

<https://www.rigb.org/>

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