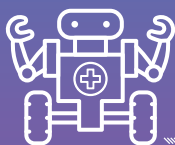


FREE ENTRY

SUMMER SCIENCE LATES

EXHIBITION



PROGRAMME

THE
ROYAL
SOCIETY

 @royalsociety #summerscience

Exhibition opening times

TUESDAY 2 JULY

6pm – 10pm
(18+ only)

WEDNESDAY 3 JULY

10am – 4.30pm

THURSDAY 4 JULY

10am – 4.30pm

FRIDAY 5 JULY

10am – 6pm

SATURDAY 6 JULY

10am – 6pm

SUNDAY 7 JULY

10am – 6pm

Last entry is 30 minutes
before closing.

General information

Photography policy

Please be aware that photography/filming may take place during your visit to the Royal Society. If you do not wish to consent, please visit the information desk to collect an opt-out sticker from a member of staff. If you wish to use photography or filming equipment at the exhibition, remember to respect visitors wearing a 'no photography' sticker who do not wish to be photographed/filmed.

Accessibility

The exhibition is fully wheelchair accessible, and the café is located in the Basement, accessed from the lifts situated near the main staircase. Entrance and exit to the Terrace marquee is via ramp. Please inform a member of staff at any point during your visit if you require any assistance.

We can also provide free portable hearing loops and portable seats on demand. Talk to a member of staff for more information.

Large print programmes are available from the information desk.

Staff

Should you require any help during your visit to the Royal Society, our exhibition team will be happy to assist you. You can pop to the information desk or our exhibition team will be around the building, identifiable by their red 'Staff' t-shirts.

Welcome

It is a pleasure to welcome you to the Royal Society for our annual Summer Science Exhibition.

We are excited to share some of the latest and most innovative research in science, engineering and technology from across the UK. The exhibition provides a great opportunity to talk directly to scientists to understand more about their work and how it is helping shape our society.

All of the 22 exhibits are hands-on, giving you the chance to personally experience the science. This year, you can look forward to exploring what it would be like to live on the Moon, discovering why we get breathless and finding out how maths is helping unlock new treatments for cancer.

We are also delighted to introduce our event programme, which is packed with talks and activities for all age groups. As well as showcasing a wide variety of current research, we delve into some of the fascinating history which led to modern day science and technology.

I hope you enjoy your visit to the Exhibition.



Venki Ramakrishnan
President of the Royal Society

royalsociety.org/summer

 /theroyalsociety

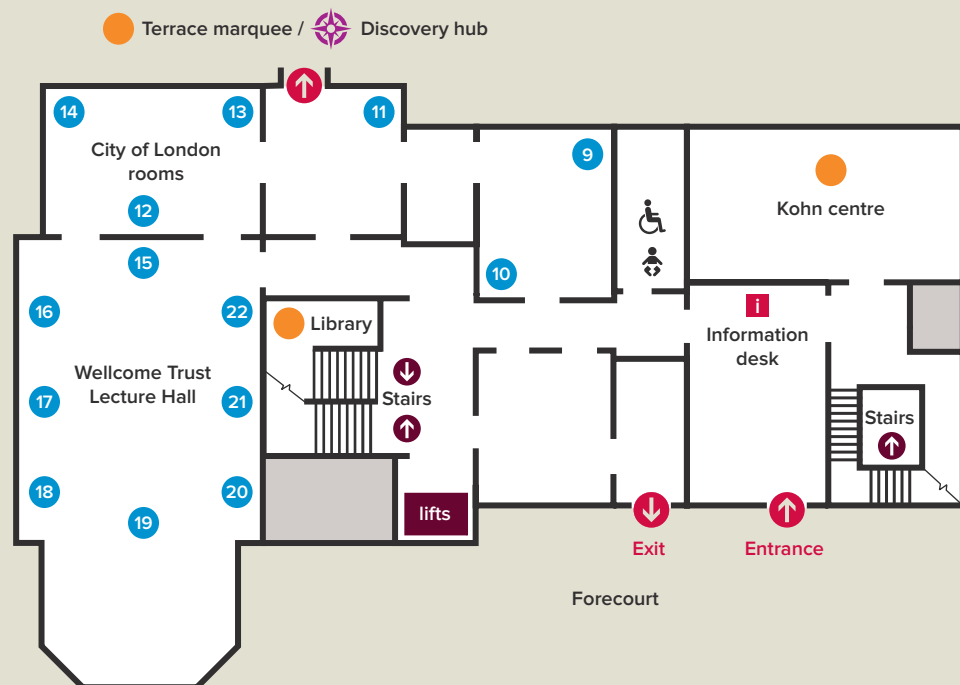
 @royalsociety #summerscience

Map

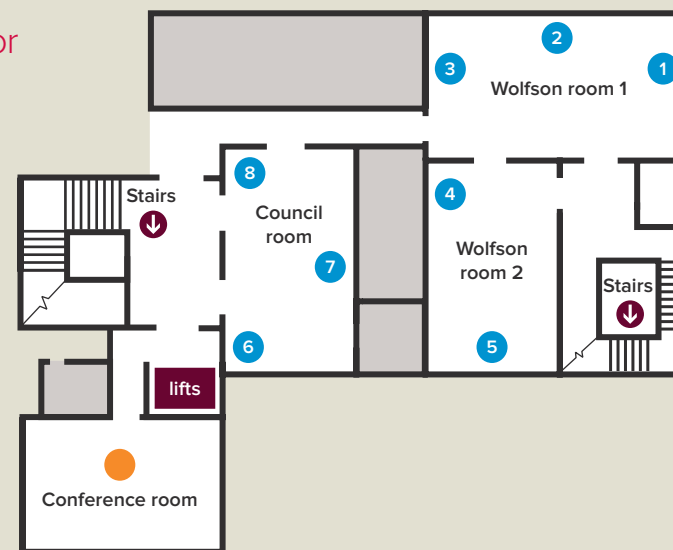
Basement



Ground floor



First floor



- Exhibits
- Talks and activities locations
- Discovery hub
- Other exhibits
- Fiery Earth exhibition

General information

- Bar
- Baby changing facilities
- Water fountain
- Cloakroom

Exhibits

First floor



1 In your element
Celebrate the 150th anniversary of the periodic table with an investigation into the elements we rely on every day.



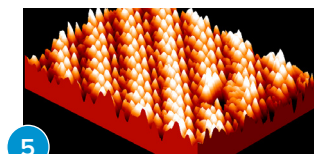
2 A recipe for primordial life
Dive into the primordial soup to reveal the fundamental building blocks of life.



3 The great Bristol shake off
Shake, shake, shake those fake earthquake tremors to help safeguard our nuclear reactors against natural disasters.



4 It's a knockout
Explore how tuberculosis is becoming a disease of the past through the use of genetic technologies.



5 Surface matters
Detect how even small changes on the surface of materials can dramatically alter their properties.



6 Lighting the brain after birth
Glimpse how light can be used to monitor the brain activity of babies and even save the lives of newborn infants.

First floor

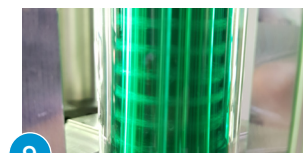


7 BepiColombo: x-ray eyes on Mercury
Voyage to this mysterious and uncharted planet and explore how its secrets are being revealed using x-ray imaging.

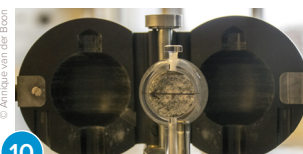


8 Molecular music: the sound of chemistry
Join Ilkley Grammar School as they create musical masterpieces to show what's happening in a chemical reaction.

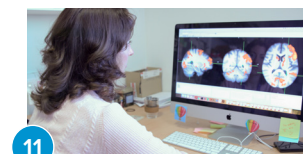
Ground floor



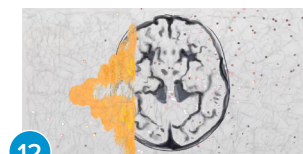
9 Green light for chemistry
Find out how light can be used as a clean, green alternative to chemicals in manufacturing methods.



10 Magnetic to the core
Discover what the Earth's ancient magnetic field tells us about the hidden depths of our planet.



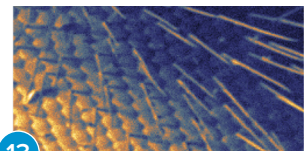
11 Breathing with your brain
Why do we get breathless? Explore how and why the brain can influence the breathing process.



12 Do you feel me?
Discover how words can have a taste and sounds have a colour for people with synaesthesia, a condition that blends the senses.

Exhibits

Ground floor



13

Seeing with atoms

See how helium can be used in microscopy to open a new world of discovery.



14

Living on the Moon

Prepare for the next big lunar challenge, 50 years after the historic Apollo 11 Moon landing.



15

Timber towers of tomorrow

Explore the science and engineering of super tall timber, from the smallest of cells to the highest of skyscrapers.



16

A message from afar

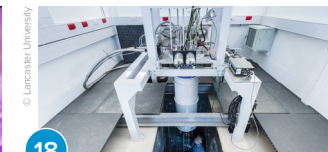
Join the debate on whether we should try to communicate with extra-terrestrial civilisations.



17

Take a bite out of climate change

Uncover the surprising truths about what we eat in this myth-busting look at the food on our plate and how it gets there.



18

Art of isolation

Is the quietest place in the Universe really next to the M6? Investigate how the removal of 'noise' is enabling the development of brand new technology.

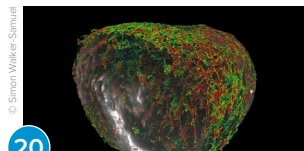
Ground floor



19

Trusted autonomous vehicles

Would you trust a driverless car? Put your views to the test and see what it takes to establish trust in this up and coming technology.



20

The mathematics of cancer

In the search for a cure for cancer, see how mathematical modelling is providing valuable insight into the complex structures of tumours.



21

Robots in the danger zone

Meet the real-world robots unlocking new possibilities in areas too hazardous for humans to work.

Basement



22

Super biomaterials to fight super bugs

Discover the amazing materials helping to battle the rise of superbug infections in medical devices.



23

Fiery Earth: the volcano and the Royal Society

In 1883, the island of Krakatoa erupted in a series of cataclysmic volcanic explosions and the after-effects were experienced across the world. This exhibition looks at how natural philosophers struggled up to this point to understand volcanos and why Krakatoa gave urgency to discovering more about our planet – for what happens deep beneath the Earth's surface has consequences for us all.

Events

Talks

Admittance for our talks is first-come, first-served.

Drop-in

These activities run continuously and you can drop in at any time. Please note if the venue is at capacity you may have to wait.

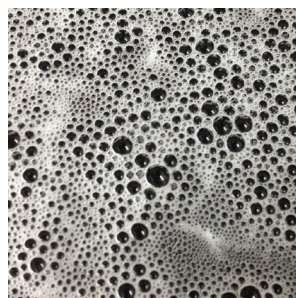


Drop-in
Time 6pm – 9pm

All that glitters

Building-wide

Get your glitter on and be prepared to shine bright like a diamond after a visit to the roaming face painting station. As well as glam, this look is guilt-free as all products used are biodegradable and eco-friendly.



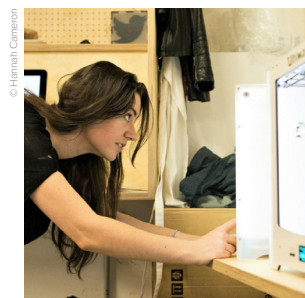
Drop-in
Time 6pm – 10pm

Getting physics with it

Basement

Pastels, pigments and pencils meet physics phenomena in this still life drawing workshop run by artist Jennifer Crouch.

Get physical by drawing demonstrations of diffraction, explore electromagnetism through your illuminating illustrations and sketch the sound of resonance.



Talk
Time 6.30pm, 7.30pm, 8.30pm

Make and taste

Conference room

The future of food is here. Join 3D printer fanatic Hannah Cameron and the Royal Society's catering team as they show-off their food printing skills in this unique make and taste workshop.

No previous experience of 3D printing or eating necessary.



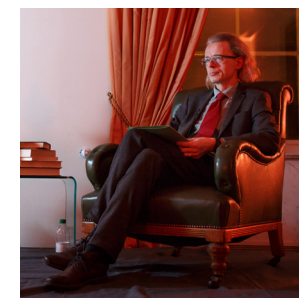
Drop-in
Time 6.30pm – 9.30pm, every 20 minutes

Science cabaret

Terrace marquee

Research projects span years, but tonight these researchers have only minutes to tell you all about their work.

Join us for a series of short talks throughout the night from Royal Society-funded researchers as they step into the spotlight to describe exactly what it is they're doing and why.



Talk
Time 6.45pm, 7.15pm, 7.45pm, 8.15pm, 8.45pm

Tales of science past

Library

For one night only our expert library team will share some of their favourite secrets from the Royal Society archives with you.

From unusual objects to surreal stories about futuristic inventions, this is a journey to the past not to be missed.



Talk

Time 7pm, 8pm, 9pm

Where brain meets beat

Kohn centre

Go beyond the “boots and cats” to discover the remarkable science behind the performance art that is beatboxing. Featuring exclusive live performances by beatboxing legend Grace Savage.



Talk

Time 7.15pm, 8.15pm

Seeing music

Café

See music as you never have before in a unique, cross-sensory violin performance by synaesthete, Kaitlyn Hova.

By using a violin that lights up with the colours she sees, Kaitlyn invites you to enter her cross-sensory world and experience music in a brand new way.



Drop-in

Time 6pm – 10pm

Discovery hub

Terrace marquee

Could you escape the clutches of a hungry pitcher plant? Or reveal the contents of a hidden message using terahertz radiation?

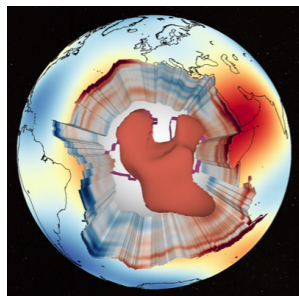
From scientists who 3D print the Earth, to astrophysicists who can transport you to outer space at the touch of a button, meet some of the scientists funded by the Royal Society in this hands-on hub of discovery.



The tricks and traps of insect-eating plants

Terrace marquee

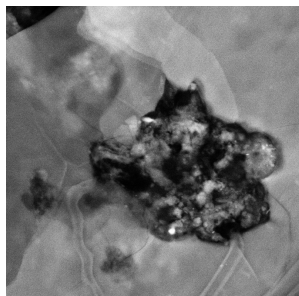
Step into an ant's shoes and experience first-hand how the sophisticated surface of a tropical pitcher plant can trap even the most skilful of escape artists with Dr Ulrike Bauer.



3D printing the world

Terrace marquee

Using modern 3D printing techniques, Dr Paula Koelemeijer brings the deep landscapes from under the Earth to life by allowing you to uncover it layer by layer.

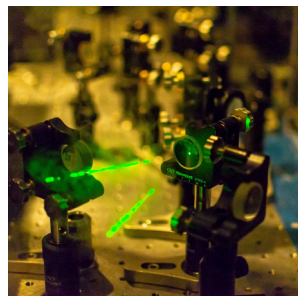


The rock eaters

Terrace marquee

Meet Dr Flavia Pinzari and the rock-eating fungi that shape the make-up of the soil beneath our feet.

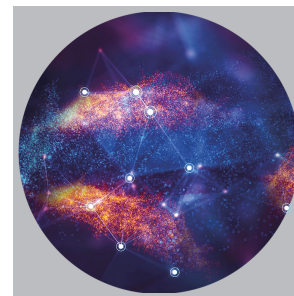
Discover why understanding how these fungi choose their next meal is crucial for the future of sustainable farming and conservation.



Let's get wavy

Terrace marquee

Professor Giles Davies reveals the secrets of terahertz waves, which have real world applications from investigative policing to monitoring climate change.



Walk amongst the stars

Terrace marquee

You won't need a spacesuit to explore the Universe with Peter Taylor. Be transported to a virtual world where you can walk within the Milky Way and take a front row seat to witness particles being warped into a black hole.

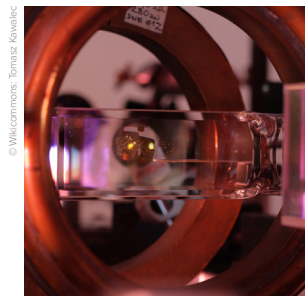


Exploring the 2D world with a 3D printed microscope

Terrace marquee

Have you ever marvelled at the extraordinary properties of graphene?

Join Dr Sara Dale and Dr Richard Bowman to discover the uses of 2D materials such as this, and the 3D printed microscopes that we can use to examine them.



Getting deep

Terrace marquee

Dig into the technology that allows us to see deeper underground than ever before with Professor Kai Bongs. See the science behind these sensors in action with a live demonstration of atoms being cooled below zero.

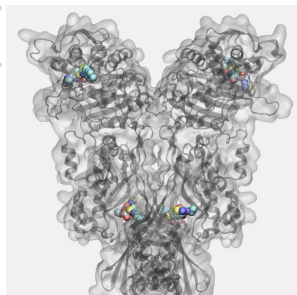


The sweet world of microbes

Terrace marquee

Unlock the secrets of the tiny micro-organisms that have shaped our world with Dr Patricia Sanchez-Baracaldo.

Test your skills to see if you can build DNA using only sweets and bring out your competitive streak in a head to head game of DNA PolymeRace.

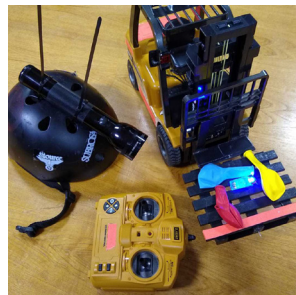


The battle of antibiotic resistant bacteria

Terrace marquee

Can you imagine if a simple scratch could kill you?

Meet Dr Ying-Chih Chiang who is just one of the researchers leading the charge against antibiotic resistant bacteria.



Nanobots: light-activated machines for fighting cancer

Terrace marquee

Swing into high gear in the battle against cancer with Dr Robert Pal and take to the wheel of the nanomachines targeting cancerous cells.

© Meristock



Sip the rainbow

Whether you've got a sweet tooth or prefer your savoury options, love a hint of botanical or a fruity twist takes your fancy, head to one of our bars to sample exclusive colourless cocktails. With every sip of your clear concoction of choice, your mind will begin to paint a picture of the taste sensation and make you ask: can you taste the rainbow without actually seeing it?

Discover more

The Royal Society runs a number of events for the public throughout the year, from talks and debates at Carlton House Terrace to hands on activities around the country.

Sign up to our public newsletter to hear about our events and other news or find out more at royalsociety.org/events



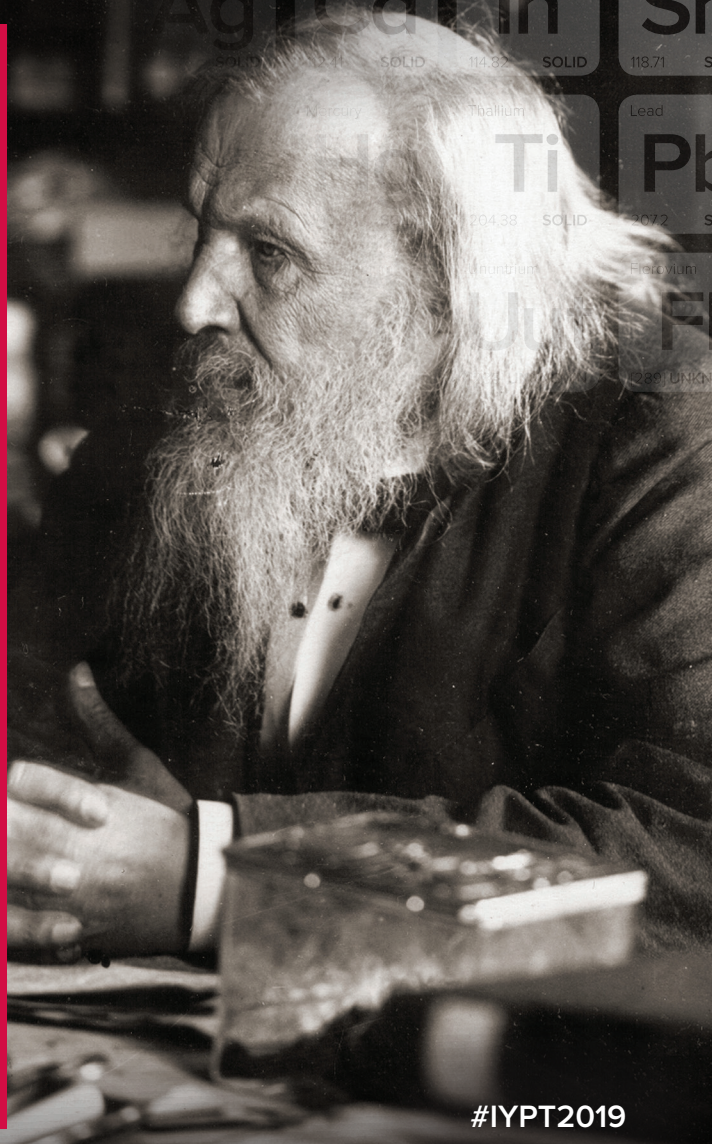
CELEBRATING

The International Year of the Periodic Table

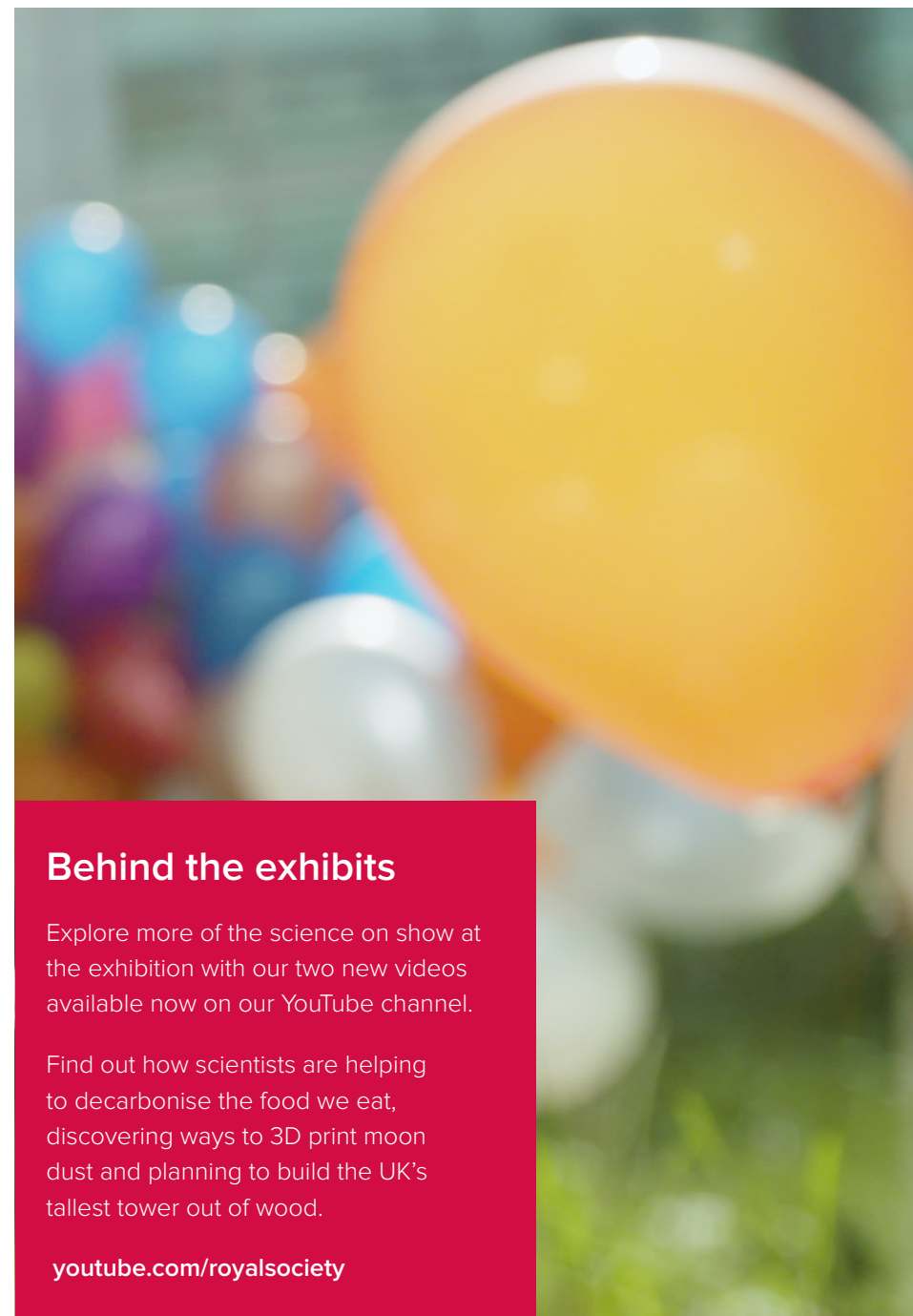
2019 has been designated by UNESCO as the International Year of the Periodic Table, marking the 150th anniversary of Dmitri Mendeleev's iconic Periodic Table of Chemical Elements. Since its creation in 1869, the periodic table has become a vital tool to all who learn and work in science, through all stages of their learning and careers.

You can explore the relevance of the periodic table through several of the exhibits at this year's exhibition.

For more information about the year-long celebration, visit iypt2019.org or rsc.org/iypt



#IYPT2019



Behind the exhibits

Explore more of the science on show at the exhibition with our two new videos available now on our YouTube channel.

Find out how scientists are helping to decarbonise the food we eat, discovering ways to 3D print moon dust and planning to build the UK's tallest tower out of wood.

youtube.com/royalsociety

The Royal Society

The Royal Society is a self-governing Fellowship of many of the world's most distinguished scientists drawn from all areas of science, engineering, and medicine. The Society's fundamental purpose, reflected in its founding Charters of the 1660s, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.

The Society's strategic priorities are:

- Promoting excellence in science
- Supporting international collaboration
- Demonstrating the importance of science to everyone

For further information

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Founded in 1660, the Royal Society is the independent scientific academy of the UK, dedicated to promoting excellence in science.

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