

Featured Events

Research as art

For the last four years, Richard Johnston has devised and directed the Research as Art initiative at Swansea University, an innovative project that aims to engage people with research, via beautiful images, inspiring descriptions, and most importantly, show why research is essential and important. Richard has grown the project each year and the Royal Institution is proud to host a selection of dramatic images. **Exhibition runs 7 January - 8 February 2013 in the atrium. Free admission.**



14-10 club

Exclusively for finance professionals who have a background in science and mathematics and want to keep their interests alive, the Ri's 14-10 club meets on a monthly basis to hear from top experts in science, maths and finance in a social and collegiate atmosphere in the heart of Mayfair. **Find out more at www.rigb.org/14-10.**



Science short courses

Aimed at anyone who wants to explore a subject in more depth than a one-off lecture, but not as formal as a university course, the Ri's science short courses promise to provide you with access to world-class researchers in a social atmosphere to explore some of the most fascinating topics in science. Courses planned for the spring include **quantum theory** and the **history of technology**. Check www.rigb.org for more details.



Family Fun Days

Family Fun Days are Saturday events to get the whole family excited about science. Drop in anytime to enjoy the short talks in our famous theatre and get stuck in to experiments, creative activities and making things to take home. Suitable for children aged 6-12, but older and young siblings will have fun too. Keep an eye out for new dates coming soon.



Friday Evening Discourses

Started by Michael Faraday in 1825, these events showcase the best in science and technology. It was during a Friday Evening Discourse in 1839 that Faraday first announced the existence of photography, and in 1903 that Pierre Curie presented Marie Curie's work on radium and left residual radiation... What world-changing research will be presented this year?



Experience the Ri

Ri Bar + Kitchen

Relax in the 1950s panelled lounge and bar or in the colourful cafe at the foot of the glass atrium, any time of day. Serving up a seasonal all-day menu of British favourites, the bar is the perfect place for a cocktail and bite to eat before the show or a casual lunch, whilst the café is ideal for a quick coffee or meeting. **Free WiFi access.**



Science on demand

Catch up with the latest Ri events, your favourite Christmas Lectures and the best science videos from across the web on the Ri Channel www.richannel.org.



Faraday Museum

Explore the world-changing science that's happened at the Ri since 1799. From Faraday's original 1850s laboratory and the first electric motor to Davy's miners' lamp, everywhere you look you'll discover something amazing! Come for an hour or grab an e-guide and spend a whole afternoon. **Free admission.**



Become a Member

Join the Ri to receive enormous value with free access to all Ri public events (excluding some premium events and the Christmas Lectures), members only events and the exclusive opportunity to enter the ballot for Christmas Lectures tickets. More information at www.rigb.org/membership.



Supporters

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Front cover image: NASA/SDO/Steele Hill.
The Sun erupting with two prominence eruptions.

Ticket booking information

Book online at www.rigb.org
or call +44 (0)20 7409 2992
9.00am – 6.00pm Monday to Friday

Royal Institution open 9.00am –
6.00pm Monday to Friday
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January – April 2013

What's on



January

The particle at the end of the Universe

Tuesday 15 January, 7.00pm – 8.30pm

Award-winning physicist and science populariser **Sean Carroll** reveals the history-making forces of insight, rivalry, and wonder that fuelled the search for the Higgs boson and how its discovery opens a door into the mind-boggling domain of dark matter and other phenomena we never predicted.

Tickets: £10/£7/£5 Associates. Members go free.

A down to Earth guide to the Cosmos

Wednesday 23 January, 7.00pm – 8.30pm

To the untrained eye, the star-filled sky at night can seem as mysterious and unfathomable as it did to our distant ancestors. But with TV's

Mark Thompson as your guide, the awesome nature of the Cosmos will be brought down to Earth.

Tickets: £10/£7/£5 Associates. Members go free.

Friday Evening Discourse

Quantum life: how physics can revolutionise biology

Friday 25 January, 8.00pm – 9.15pm

Experimental techniques in biology have become so sophisticated that the time is ripe for testing a few ideas familiar to quantum physicists. A range of phenomena, from the way proteins fold or genes mutate, to the way plants harness light in photosynthesis and how our sense of smell works all seem to utilise some of the more bizarre features of the quantum world.

Jim Al-Khalili will be your guide.

Tickets: Free to Members/Faraday Members, £10 Associates and £15 guests.

The Universe within

Thursday 31 January, 7.00pm – 8.30pm

For aeons, the Earth has circled the Sun while mountains, seas and entire continents have come and gone. Against this epic backdrop, humanity's place in the Cosmos can look tiny and insignificant. But as **Neil Shubin** shows in this revelatory new talk, the one place where universe, solar system and planet merge is inside the human body.

Tickets: £10/£7/£5 Associates. Members go free.



Materials scientist Mark Miodownik

February

The joy of sects: re-writing the Bible as a scientific textbook

Tuesday 5 February, 7.00pm – 8.30pm

The Bible was the first scientific textbook. The double helix and the mushroom cloud have joined the Cross, the Crescent and the Star of David as global icons. **Steve Jones** will discuss the overlap between new work on genetic predisposition with the ancient idea of inborn human frailty, of original sin, in fields as distinct as sport, obesity and crime.

Tickets: £10/£7/£5 Associates. Members go free.

Science and the dark art of persuasion

Tuesday 12 February, 7.00pm – 8.30pm

Psychologists, marketers and neuroscientists have learned a lot about the subtleties of persuasion. With the help of a panel including experts in scientific ethics, rhetoric, psychology and more, **Helen Czerski** and **Marcus Brigstocke** will debate what scientists should know about the dark arts of persuasion, and whether they should ever use them.

Tickets: £10/£7/£5 Associates. Members go free.

Anatomies: the human body, its parts and the stories they tell

Thursday 21 February, 7.00pm – 8.30pm

It is the most fraught and fascinating, talked-about and taboo, unique yet universal aspect of our lives. It is the inspiration for art, the subject of science and the source of some of the greatest stories ever told. **Hugh Aldersey-Williams**, presents a splendidly entertaining journey through the art, science, literature and history of the human body.

Tickets: £10/£7/£5 Associates. Members go free.

Friday Evening Discourse

Strange material

Friday 22 February, 8.00pm – 9.15pm

The development of the silicon chip fifty years ago was the materials science innovation that sparked the information technology revolution. But what materials innovations are on the horizon? **Mark Miodownik** investigates.

Tickets: Free to Members/Faraday Members, £10 Associates and £15 guests.

March

Business success: what's luck got to do with it?

Wednesday 6 March, 7.00pm – 8.30pm

What role does luck play in the success of a business? Do we make our own luck through hard work or is it down to just 'good luck'? The Ri in partnership with specialist insurer Hiscox, hosts this one-off debate to determine if businesses succeed by being in the right place at the right time or through sheer determination. Hosted by **Vivienne Parry**, featuring **Richard Wiseman**, **Matthew Syed**, **Stephann Makri** and **Sarah Curran**.

Tickets: £10/£7/£5 Associates. Members go free.



Project sunshine: how science can use the Sun to fuel and feed the world

Wednesday 13 March, 7.00pm – 8.30pm

Tony Ryan, leader of 'Project Sunshine' a far-reaching project at the University of Sheffield, will show how cutting-edge science can use the Sun to provide sustainable food and energy for a global population of nine billion people, eliminating the need for 'fossilised sunshine' in the form of coal, oil and gas. Capturing just one hour's worth of sunlight will enable us to meet the planet's food and energy needs for an entire year.

Tickets: £10/£7/£5 Associates. Members go free.

The Internet tells us nothing

Monday 18 March, 7.00pm – 8.30pm

The Internet is not just a series of tubes (or physical networks); it's also a series of ideas. Digital enthusiasts point to Wikipedia - the quintessential Internet project - to argue that decentralisation beats centralisation. Likewise, techno-dystopians point to the rise of state and corporate surveillance. But are we investing the Internet with too much meaning? Celebrated author **Evgeny Morozov** discusses.

Tickets: £10/£7/£5 Associates. Members go free.

Friday Evening Discourse

The race to be the 'cell therapy nation'

Friday 22 March, 8.00pm – 9.15pm

Fierce competition to be the 'cell therapy nation' is underway. Multidisciplinary teams clad in lab coats, theatre greens and pinstripe suits, sponsored by public and private funding, working on non-level playing fields are locked in combat. **Chris Mason** explains why winning is everything since the consequences will impact every family for many generations.

Tickets: Free to Members/Faraday Members, £10 Associates and £15 guests.

U3A explores science at the Ri

Monday 25 March, 2.00pm – 5.00pm

The University of the Third Age teams up with the Ri for an afternoon of fascinating science talks. **David Smith** looks at life-saving chemistry whilst **Daniel Bor** explores the brain and consciousness. **Helen Scales** will ask whether there really are plenty more fish in the sea.

Tickets: £18. U3A Members should book through their local branch.

April

Creation: the origins and future of life

Tuesday 16 April, 7.00pm – 8.30pm

What is life? Where did it come from? In what form did it first appear? And how? **Adam Rutherford** will draw on recent and dramatic advances in experimental biology to answer these questions. He will also look to the future where we can create entirely new life-forms within the laboratory, offering tailor-made solutions to the crises of food shortage, pandemic disease and climate change.

Tickets: £10/£7/£5 Associates. Members go free.

The quantum Universe

Wednesday 24 April, 7.00pm – 8.30pm

Just what is quantum physics? How does it help us understand the world? Where does it leave Newton? Why can we be sure that the theory is good? And how does it relate to the recent results at the Large Hadron Collider? Join **Jeff Forshaw** to talk about the real science and the profound theory that allows for concrete, yet astonishing predictions about the world.

Tickets: £10/£7/£5 Associates. Members go free.

Friday Evening Discourse

Our dynamic Sun

Friday 26 April, 8.00pm – 9.15pm

For the past few years, the Sun has been very quiet, but now it is becoming active again, with huge explosions and solar flares which shoot very hot material into space at extremely high speeds. **Helen Mason** will explore what causes solar activity and what we are learning about the Sun from space observations in the ultraviolet and X-ray wavelength ranges.

Tickets: Free to Members/Faraday Members, £10 Associates and £15 guests.

Book at www.rigb.org