

### The science of fireworks!

Tuesday 1 November 6.00pm – 7.30pm

How did Chinese incendiaries made from honey lead to the development of gunpowder? Why do the loud bangs of fireworks have their origins in photography? How did an accident in a nineteenth-century kitchen lead to the development of new chemistry for modern fireworks? Join **Chris Bishop**, 2008 Ri Christmas Lecturer, for a spectacular family talk packed with demonstrations of pyrotechnic chemistry.

Tickets: £10/£7/£5 Ri Members. Suitable for the whole family.

### The better angels of our nature: the decline of violence in history and its causes

Wednesday 2 November 7.00pm – 8.30pm

Is violence really on the decline? The images of global conflict we see daily on our screens suggest this is an almost obscene claim to be making. Extraordinarily, however, in this riveting talk **Steven Pinker** shows that violence within and between societies – both murder and warfare – has actually declined from prehistory to today.

Tickets: £10/£7/£5 Ri Members

### Leonardo and Mona Lisa. Why?

Friday 4 November 7.00pm – 8.30pm

Why do some people or objects achieve broad fame outside their professional areas, yet others who do equally important work, do not? In this public event, which concludes the Leonardo da Vinci Society's one day meeting on 'Fame in Art and Science', **Martin Kemp** will discuss what is arguably the world's most famous painting.

Tickets: £10/£7/£5 Ri Members

### Guest Curator: Aleks Krotoski The serendipity engine

Tuesday 8 November 7.00pm – 8.30pm

The Serendipity Engine is a physical manifestation of theoretical and technological interventions that can be used to enhance serendipity on the World Wide Web. It is a working machine that uses bike parts, flower pots, cake, pulleys, lightbulbs and other concrete objects to articulate the processes that could be translated into digital "solutions" that will re-engineer the potential dystopian social trajectories of current (social) software trends.

Tickets: £10/£7/£5 Ri Members

### Thinking fast and slow

Wednesday 16 November 7.00pm – 8.30pm

Two systems drive the way we think and make choices: system one is fast, intuitive, and emotional; system two is slower, more deliberative, and more logical. Nobel Prize winner **Daniel Kahneman** will argue that only by understanding how the two systems work together, can we learn the truth about the role of optimism in opening up a new business, and the psychological pitfalls of playing the stock market.

Tickets: £10/£7/£5 Ri Members

### Quiz night

Monday 21 November 7.00pm start

From the history of science, to the latest research, to subjects that have seemingly nothing scientific about them, test your knowledge against the best.

Time & Space bar. £2 per person entry, no need to book.

### Friday Evening Discourse The science and politics of climate change

Friday 25 November 8.00pm – 9.15pm

**Sir David King**, Director of the Smith School of Enterprise and Environment at the University of Oxford and former Chief Scientific Adviser and Head of the Government Office of Science, will present his expert perspective on the challenges climate change poses to both science and politics.

Tickets: Free to Full and Faraday Members/£10 Associate Members/£15 guests



The Royal Institution  
of Great Britain

visit the Ri and get involved

#### Bar and lounge

In the glamorous former Cartier showroom, relax in this 1950s panelled lounge and cocktail bar any time of day. Serving up a seasonal all-day menu including burgers, salads, cheese and charcuterie boards, the bar and lounge is the perfect place for a cocktail or a bite to eat before or after the show.

#### Café

Sit beneath the curious collection of scientific objects and quirky pictures as you sample Mayfair's finest homemade cakes, sandwiches, soups and salads. In the five-storey glass atrium, the café at the Ri is the perfect hub for a quick coffee or meeting. Free WiFi access.

#### Get involved

Becoming a member of the Ri has many benefits and is open to all with an interest in science. Not only will you have access to members' only events, discounts on tickets and in the bar and restaurant, but you will join a 200-year-old alumni network whose support is invaluable to our UK-wide science education and communication programme, scientific research, and the exhibition and conservation of our rich history.

For more information visit  
[www.rigb.org](http://www.rigb.org) or call 020 7409 2992.



#### Supporters

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To find out how your organisation can support the Royal Institution, please contact the Development Department on +44 (0) 20 7409 2992 or follow the links on our website: [www.rigb.org](http://www.rigb.org)

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#### Ticket booking information

Book online at [www.rigb.org](http://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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The Royal Institution  
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What's on  
september > november 2011



A more perfect heaven:  
how Nicolaus Copernicus  
revolutionised the cosmos

Monday 5 September 7.00pm – 8.30pm

**'Science in the making'  
exhibition**

From the odds and ends that became the first electrical transformer to the tube that told us why the sky is blue, you can see the objects that Ri scientists built and used in some of the world's most famous experiments over the last 200 years. The highlight of the exhibition is Faraday's magnetic laboratory as it was in the 1850s. **Free admission.**



**Guest Curators**

**Roger Highfield**, Editor of *New Scientist* magazine will be bringing his own unique perspective on science to the Ri. He will be delving into the world of invisibility, finding out the implications neuromarketing has on modern consumer society – is it just rubbish or does it actually work? – and looking at the neuroscience of intelligence.



**Aleks Krotoski**, academic and journalist, will present a series on 'Connections'. Focussing on the evolution of innovation as a process of social production enhanced by our interpersonal and informational connections, she will explore how internet technology has contributed to this process, as a platform, a conduit and an articulation of existing networks and pathways. What impact does this have on our understanding of knowledge, culture and society? The first event in the series will be on Tuesday 8 November and is entitled 'The serendipity engine'. The final two events will take place on Tuesday 15 and Tuesday 22 November, and will be confirmed at [www.rigb.org](http://www.rigb.org) soon.



**Friday Evening Discourses**

Started by Michael Faraday in 1825, these events showcase the very best in science. So fashionable were the discourses, that Albemarle Street was converted into the first one-way street in London due to the congestion caused by the carriages. 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? **Discourses are open to Members and their guests.**

**Art exhibition: Autocatalysis  
31 October to 30 November**

Autocatalysis, Cooperativity and Compression (ACC) is a three-way science and art collaboration – located in three cities on two continents – between Daniel Andor, a physicist and musician working in New York City; Zsuzsanna Ardó, an artist, curator and writer working from London; and Tom Culora, a visual artist working from Rhode Island.



september

**A more perfect heaven: how Nicolaus Copernicus revolutionised the cosmos**

**Monday 5 September 7.00pm – 8.30pm**  
International bestselling author and former *New York Times* science reporter, **Dava Sobel** chronicles the history of the Copernican Revolution. Relating the story of astronomy from Aristotle to the Middle Ages, she expands the bounds of popular science writing, giving us an unforgettable portrait of a major step forward in the human knowledge of our universe.  
**Tickets: £10/£7/£5 Ri Members**

**Quantum theory cannot hurt you**

**Thursday 15 September 7.00pm – 8.30pm**  
The two towering achievements of modern physics are quantum theory and Einstein's general theory of relativity. Together, they explain virtually everything about the world we live in but, almost a century on, most people haven't the slightest clue what either is about. Join **Marcus Chown** and **Manjit Kumar** as they cover the personalities whose lives were dedicated to understanding the most baffling scientific discoveries ever and offer a crash course on how to understand quantum theory.  
**Tickets: £10/£7/£5 Ri Members**

**Quiz night**

**Monday 19 September 7.00pm start**  
From the history of science, to the latest research, to subjects that have seemingly nothing scientific about them, test your knowledge against the best.  
**Time & Space bar. £2 per person entry, no need to book.**

**Guest curator: Roger Highfield  
Instant expert: invisibility**

**Thursday 22 September 7.00pm – 8.30pm**  
Join us on a journey into the world of invisibility, with pioneering astrophysicist **Michael Rowan-Robinson** and theoretical physicist **Sir John Pendry**. They will be exploring what invisible rays from radio to gamma has revealed about the cosmos, and how research into metamaterials is being used to create the first invisibility cloak.  
**Tickets: £10/£7/£5 Ri Members**

**Friday Evening Discourse  
Prosperity though chemistry**

**Friday 30 September 8.00pm – 9.15pm**  
Chemistry has been at the heat of research at the Ri for 200 years! After all, it is the great enabling subject that is central to progress in solving global problems. In today's world, these problems are as vital, as new energy sources, food, clean water, and healthcare. **David Phillips** presents some current research in these areas as well as his own work in the field of targeted photodynamic therapy of cancer.  
**Tickets: Free to Full and Faraday Members/£10 Associate Members/£15 guests**

**Science in the news**

With its finger on the pulse, the Ri often brings the science of the headlines to live audiences. Join the scientists, journalists and politicians who drive public debate. For the latest information on reactive events, follow us on Twitter ([rigb\\_science](https://twitter.com/rigb_science)) and Facebook (Royal Institution) and sign up to receive our email bulletin at [www.rigb.org](http://www.rigb.org).



october

**Family Fun Day: hot and cold**

**Saturday 1 October 11.00am – 4.00pm**  
How cold is deep space and how hot is a star? At this month's fun day you'll be able to learn about this and much more! There'll be a range of activities, and some of the hottest (and coldest) demonstrations around to explore temperature at the extremes.  
**Tickets: £10/£5 (under 18s). Faraday Members free.**  
**Two free under 18 tickets for Ri Members.**

**Guest Curator: Roger Highfield  
Does neuromarketing work?**

**Tuesday 4 October 7.00pm – 8.30pm**  
A marriage of market research and neuroscience that uses brain-imaging technology to peek into people's heads and discover what they really want. Is neuromarketing rubbish or does it actually work? **Graham Lawton** and **Mike Page** discuss the results of a neuromarketing experiment conducted using the front cover of *New Scientist* and its implications for the modern consumer society.  
**Tickets: £10/£7/£5 Ri Members**

**Guest curator: Roger Highfield  
The biggest IQ test**

**Wednesday 12 October 7.00pm – 8.30pm**  
Is there a single, generalised intelligence? How do age, gender, and computer games influence IQ? The results of *New Scientist's* worldwide IQ test will be discussed by **Roger Highfield** and one of the world's leading neuroscientists, **Adrian Owen**.  
**Tickets: £10/£7/£5 Ri Members**

**Uncovering the Universe: latest news from the Large Hadron Collider**

**Wednesday 19 October 7.00pm – 8.30pm**  
The Large Hadron Collider has been described as the world's biggest science experiment. But why was it built, what questions will it answer and what have we discovered from its first year of operation? LHC scientist **Tara Shears** will share the latest findings.  
**Tickets: £10/£7/£5 Ri Members**

**Friday Evening Discourse  
How to make and repair muscles**

**Friday 28 October 8.00pm – 9.15pm**  
Skeletal muscles allow us to move, breathe, smile and look around. They are first made in the embryo in response to signals which tell naïve cells to be muscle rather than skin or bone. **Peter Rigby**, chief executive of the Institute for Cancer Research, will explore how the stem cells which govern muscle growth and repair are made in the embryo, activated in adults and may even be able to be used to repair damaged muscles.  
**Tickets: Free to Full and Faraday Members/£10 Associate Members/£15 guests**

**Autocatalysis, cooperativity and compression**

**Monday 31 October 7.00pm – 8.30pm**  
To coincide with the exhibition 'Autocatalysis, cooperativity and compression', the three collaborators discuss their work.  
**Free. Must book.**