



# Trustees' report and financial statements

For the year ended 31 March 2014

THE  
ROYAL  
SOCIETY

### **Trustees**

The Trustees of the Society are the members of its Council, who are elected by and from the Fellowship. Council is chaired by the President of the Society. During 2013/14, the members of Council were as follows:

#### **President**

Sir Paul Nurse

#### **Treasurer**

Professor Anthony Cheetham

#### **Biological Secretary**

Sir John Skehel\*\*

Dame Jean Thomas DBE\*

#### **Physical Secretary**

Sir John Pethica

#### **Foreign Secretary**

Professor Martyn Poliakoff CBE

#### **Members of Council**

Professor Gillian Bates \*

Sir John Beddington CMG

Professor Geoffrey Boulton OBE

Professor Andrea Brand \*\*

Dr Simon Campbell \*

Professor Michael Cates \*\*

Professor John Collinge \*

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Professor Ottoline Leyser CBE

Dr Robin Lovell-Badge \*

Professor Angela McLean \*\*

Professor Georgina Mace CBE \*\*

Professor Roger Owen

Professor Timothy Pedley

Dame Nancy Rothwell DBE \*\*

Professor Nicholas Tonks \*

Professor John Wood

\* Up to 29 November 2013

\*\* From 29 November 2013

### **Executive Director**

Dr Julie Maxton

### **Statutory Auditor**

Deloitte LLP

Abbots House

Abbey Street

Reading

RG1 3BD

### **Bankers**

The Royal Bank of Scotland

1 Princess Street

London

EC2R 8BP

### **Investment Managers**

Rathbone Brothers PLC

1 Curzon Street

London

W1J 5FB

### **Internal Auditors**

PricewaterhouseCoopers LLP

Cornwall Court

19 Cornwall Street

Birmingham

B3 2DT

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### **Registered Charity Number 207043**

#### **Registered address**

6 – 9 Carlton House Terrace

London SW1Y 5AG

**royalsociety.org**

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## Cover

Jellyfish, *Aurelia aurita*,  
swimming in a water tank:  
image from the *Limits  
of perception* exhibit,  
part of the Royal Society  
Summer Science Exhibition  
2014, exploring imaging  
techniques of the future.

## President's foreword



Science is central to modern life. It is at the heart of our culture and is recognised as the key to sustainable long term economic growth. The Royal Society, as the national academy of UK science, has a responsibility to ensure that the importance of science is recognised.

Our position is based on the strength of our Fellowship and I am delighted that the Fellowship Programme, launched in 2012, continued to flourish, providing opportunities for Fellows to discuss science with each other and Royal Society business with myself and other Officers of the Society. This has taken me to places including Canada, Australia, Singapore, India, Belfast, Dublin, Glasgow, Norwich, Exeter, Nottingham and Edinburgh to discuss topics as varied as elections to the Fellowship, public engagement with science, climate change, scientific misconduct and funding for science.

The achievements of the Fellowship have not gone unnoticed on the world stage, with Peter Higgs being awarded the 2013 Nobel Prize for Physics. Foreign Member Randy Shekman was also recognised, receiving the 2013 Nobel Prize for Physiology and Medicine along with Yakov Sinai who was awarded the Abel Prize. We also made our own awards and I was delighted that Andre Geim received the Copley Medal for his work on graphene.

Unfortunately the news has not all been good. In February we were saddened by the death of Lorna Casselton, the Society's Foreign Secretary between 2006 and 2011. She will be greatly missed.

Science is a global activity and the Society's relations with China have developed significantly this year. In September 2013, I visited China with the purpose of building on current scientific collaboration between our two countries. Highlights included a meeting with Madame Liu Yandong, Vice Premier of the People's Republic of China and the admittance of Professor Chen Zhu to the Royal Society Foreign Membership. The latter took place in the Great Hall of the People – an example of a very rare case of the ceremony taking place outside of London. A Memorandum of Understanding was agreed with the Chinese Academy of Sciences recognising the importance of free enquiry in science and encouraging future collaborations. We have also been working with our government to secure funding for such future scientific collaborations.

At home, the Society continues to champion the value of research to the UK's economy. We worked closely with the Academy of Medical Sciences, the British Academy and the Royal Academy of Engineering throughout the year to engage the government as it considered future public spending decisions. I believe that our joint statement entitled *Fuelling prosperity* (published in April 2013) was instrumental in delivering a spending review settlement for science that compared well to most areas of public spending. We continue to make the case for investment in science.

*Paul Nurse*

Paul Nurse  
President of the Royal Society

# Executive Director's report



The Royal Society recognises the importance of science to many areas of policy making and this year climate science has been an area of particular focus. The US National Academy of Sciences (NAS) and Royal Society joint statement on climate science was published in February 2014, receiving extensive coverage across social and traditional media. The publication of the statement reinforces the Society's work on climate science since the launch of the Intergovernmental Panel on Climate Change (IPCC) report in September 2013, including a scientific discussion meeting *Next steps in climate science*, organised by Brian Hoskins FRS, which brought together lead authors of the IPCC report and other experts in the field. A major ongoing Society project on *Human resilience to climate change* is analysing how ecosystem-based approaches can be effectively used to build resilience to climate change impacts and the full report will be available in 2015.

The Society's international ambitions are prominent in its Strategic Plan, which commits the Society to extend the reach, scale, visibility and impact of current international activities. Under the UK's G8 Presidency, the Society hosted a unique meeting of G8 Science Ministers and Academy Presidents in June 2013.

The Royal Society is also supporting an unprecedented collaboration with North Korean scientists. Scientists from Imperial College London and Cambridge University, in partnership with Korea's Institute of Volcanology, have been to monitor Mount Paektu, the volcano on the China-North Korea border. This collaboration would not have taken place without the Society's facilitation and is an excellent example of science diplomacy in action.

Plans are in place for the Commonwealth's leading scientists to come together under the aegis of the Royal Society and the Indian government for the Commonwealth Science Conference in Bangalore in November 2014.

In February 2014, the Society announced the launch of a new journal, *Royal Society Open Science*, the first to cover the entire range of science and mathematics. *Royal Society Open Science* incorporates 'objective' peer review – publishing all articles which are scientifically sound and of good quality.

During the year, the Society established a new Public Engagement Committee under the Chair of Professor Russell Foster FRS, to promote science as a key element in the cultural and economic life of the nation. Many of the contemporary science issues affecting society are the subject of Royal Society policy reports and one of the aims of the public engagement strategy is to discuss more evidence-based policy topics with the public, an approach reflected by the publication of the Society's joint statement on climate science with the NAS.

The Royal Society is committed to promoting diversity in UK science, technology, engineering, mathematics and medicine and is a signatory to the Department for Business, Innovation and Skills Women into Technology and Engineering Compact. The compact was launched in May 2014, almost exactly on the fiftieth anniversary of Dorothy Hodgkin FRS winning the Nobel Prize for Chemistry. At the time she was only the third woman to win the prize and coincidentally the third woman to be elected to the Royal Society Fellowship. In 2015 we look forward to the 70th anniversary of the election of women to the Fellowship, alongside celebrations to mark 350 years of the founding of the world's first scientific journal, *Philosophical Transactions of the Royal Society*.

A handwritten signature in black ink that reads "Julie Maxton". The signature is written in a cursive, flowing style.

Dr Julie Maxton  
Executive Director of the Royal Society



# Trustees' report

## The Royal Society

The Royal Society of London for Improving Natural Knowledge, commonly known as 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 is the national academy of science in the UK, and its core is its Fellowship and Foreign Membership. The Fellowship comprises the most eminent scientists of the UK, Ireland, and the Commonwealth. Fellows are elected through a peer review process on the basis of their excellence in science. There are 1,386 Fellows and a further 155 Foreign Members, including around 80 Nobel Laureates. It is from the eminence of its Fellowship and Foreign Membership and its independence from government and particular interests that the authority of the Society in scientific matters derives. Fellows and Foreign Members are invited to fulfil a range of responsibilities for the Society on a voluntary basis. Many others, scientists and non-scientists, also contribute to the work of the Society on a voluntary basis. The Fellowship is supported by staff based mainly in London.

A major activity of the Royal Society is identifying and supporting the work of outstanding scientists. The Society supports researchers through a range of schemes funded by government, foundations, trusts, research councils, industrial organisations, gifts, and from the Society's own resources. The Society facilitates interaction and communication among scientists via its discussion meetings and disseminates scientific advances through its journals. The Society also engages beyond the research

community, through independent policy work, the promotion of high quality science education, and communication with the public.

The Royal Society has six strategic priorities, detailed in the Strategic Plan 2012 – 2017:

- Promoting science and its benefits.
- Recognising excellence in science.
- Supporting outstanding science.
- Providing scientific advice for policy.
- Fostering international and global cooperation.
- Education and public engagement.

## Public benefit

As noted in the President's foreword, science is central to modern life, is at the heart of our culture, and is recognised as the key to sustainable long-term economic growth. The Society's purpose is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity. As shown in this report, the Society pursues a wide range of activities that provide public benefit directly or indirectly. Examples are: provision of financial support for outstanding young scientists to pursue ground-breaking research; open publication of scientific advances after peer review in the Society's journals; provision of independent expert scientific advice and information to policy-makers and the public; programmes to build scientific capacity in African countries; programmes to promote the importance of diversity in science; and a vigorous programme of public engagement with science that includes exhibitions, public events, and educational outreach activities.

### Top left

Students at Sir Paul Nurse's lecture on *Making science work* at the CAS University in China.

### Top right

Professor Sir Andre Geim, FRS (recipient of the Royal Society Copley medal 2013).

### Middle

Bill Bryson FRS (right) in conversation with Professor Jim Al-Khalili OBE (left) at the Royal Society.

### Bottom left

The Royal Society Summer Science Exhibition 2013.

### Bottom right

Frank Dobson MP (right), paired with Dr Karin Shmueli for the Society's Pairing scheme 2013.



## Promoting science and its benefits

The Royal Society engages with scientists working in industry, the public sector and universities to highlight the importance of research to our health and wellbeing as well as to our economic and social progress.

# Promoting science and its benefits

All female Fellows now have an up-to-date Wikipedia entry, the result of a Royal Society Wikipedia 'edit-a-thon' to celebrate International Women's Day in October 2013.

## Science and industry

The Royal Society is committed to innovative science wherever it is found and over the past year has focused on a 'Year of Science and Industry', a programme of activities in collaboration with industry representatives to support world-class research and development in UK industry.

Initiatives included a Science and industry symposium in May 2013 with high-level representation from industry sectors, industrial seminars held at Ceram (an organisation specialising in materials testing) and with Warwick Manufacturing Group (demonstrating how industry and academia can work together) and Jaguar Land Rover. At the Society's flagship public event, the Summer Science Exhibition 2013, exhibits led by industry included Toshiba Research Europe Ltd demonstrating the application of photons (particles of light) in secure communications, Microsoft Research's pioneering methods to monitor and respond to biodiversity loss and environmental change and Dr Caroline Brennan of Queen Mary University of London (a Royal Society Industry Fellow) exhibiting research on genes that control behaviour.

The Society continued to support the Industry Fellows and LinkedIn Network (a virtual network of former and current Royal Society Industry Fellows and their partner organisations). Four Fellows were elected from industry in 2013 – Professor Paul O'Brien FRS (founder of Nanoco Technologies), Dr Michael Burrows FRS (Distinguished Engineer, Google Inc), Ms Sophie Wilson FREng FRS (Microprocessor Architect) and Dr Nicholas Lydon (founder and Director of AnaptysBio, San Diego and Blueprint Medicines, Cambridge, USA).

The year culminated in the establishment of a new Science, Industry and Translation Committee (co-chaired by Dr Hermann Hauser CBE FRS and Dr Simon Campbell FRS) to oversee the next phase of the Society's industry strategy. Over the coming year the Society will engage industrial scientists from many sectors and company sizes, from start-ups to large corporations, bringing them together with academics, government representatives and others to support the transformation of innovative ideas into commercially successful products. Specific examples of the Society's wide-ranging work in industry are covered elsewhere in this report, including the Royal Society's Industry Fellowships to support knowledge transfer between industry and academia, see page 31, 'Supporting outstanding science'.

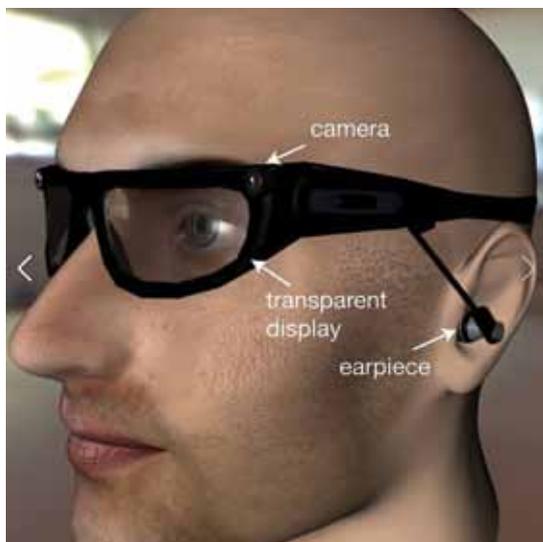
### **Brian Mercer Awards: recognising innovation and invention**

The Brian Mercer Awards were established in 2001 as the result of a generous bequest received from the late Dr Brian Mercer. Dr Mercer was an enthusiastic inventor and entrepreneur and these awards provide support for researchers who wish to develop an already proven concept or prototype into a commercial product, or investigate the technical and economical feasibility of commercialising their scientific research. The awards are presented in the areas of the built environment, clean technology and energy and nanotechnology. One Innovation Award of up to £250,000 is supported by the Society and several Feasibility Awards (each worth £30,000) are funded by the Engineering and Physical Sciences Research Council (EPSRC). A further Feasibility Award is supported by the ERA foundation (formerly known as The Electrical Research Association) and given in the field of electro-technology (including telecommunications and IT systems). The Society is grateful for the ongoing support of the ERA Foundation which has committed to further funding for this scheme over the next five years. In 2013/14 Professor Andrew Abbott of the University of Leicester and Dr Stephen Hicks of the University of Oxford received the Brian Mercer Award for Innovation and Professor Howard Colquhoun of the University of Reading, Professor Mohan Edirisinghe, University College London and Professor Michael Kelly FRS of the University of Cambridge received Brian Mercer Feasibility Awards.



#### **Professor Andrew Abbott, University of Leicester**

Medium density fibreboard (MDF) is a common material in the construction industry comprised of 80% simple wood fibres and a resin based on urea and formaldehyde. The latter of these components is associated with significant health concerns. Professor Abbott aims to make use of a new technology using starch which is plasticised using simple inorganic salts as a replacement to the current resin in boards. Another benefit of starch-based resin is that it can be recycled, which is particularly useful as a significant proportion of MDF is used for short-term applications and waste MDF either has to be incinerated or ends up in landfill.



**Dr Stephen Hicks,  
University of Oxford**

Over two million people living in the UK have impaired vision and over 300,000 are registered blind from diseases such as macular degeneration. However, blindness doesn't usually mean complete sight loss, but rather a low level of sight often limited to perception of light and motion. Dr Hicks has developed a novel technology, 'smart-glasses' that make use of a blind person's residual vision to allow them to navigate freely by detecting nearby objects and presenting them on the lenses. The next step for this technology is to include advanced vision algorithms known as 'scene understanding' to generate meaningful descriptions of a scene to help blind people identify the correct bus or train, read signs and much more.

### Enterprise Fund

The Society's Enterprise Fund supports, through funding and advice, outstanding translational science that has potential commercial benefit. Recognition provided by the Society helps the companies raise additional support.

In 2013 Sphere Fluidics, an early-stage, Cambridge-based company focusing on developing novel products and services for single cell analysis, developed a novel platform for single cell analysis and characterisation that enables the discovery and development of new biopharmaceuticals and cell therapies and novel ways to study single cell diseases, such as cancer. Supported by the Royal Society Enterprise Fund and other investors, it has patented novel biochip systems that automatically process millions of miniaturised (picolitre to nanolitre) tests in picodroplets enabling the discovery of the one in a million cells or molecules that could be the next pharmaceutical industry 'blockbuster'.

### Scientific meetings

Almost 3,000 people attended 12 Royal Society interdisciplinary discussion meetings during the year, selected from an open call for proposals to the scientific community. Each meeting is organised by leaders in the field, using their expertise to ensure the principal topics are covered. The focus on discussion throughout the meeting allows everyone, at any stage of their scientific career and based anywhere in the world, to get involved in the conversation.

With topics as varied as *Ancient DNA: the first three decades* and *e-futures: beyond Moore's Law*, discussion meetings are followed by a more focused, residential satellite meeting at the Kavli Royal Society Centre at Chicheley Hall, exploring an area of the discussion meeting in more depth. Eight of the discussion meetings held satellite meetings with 377 attendees.



### The Kavli Royal Society Centre at Chicheley Hall

The Royal Society scientific programme continues to attract high-quality meetings, organised by leading researchers within their field to bring together international scientists in discussion of the latest scientific developments. Over 750 people attended scientific meetings at the Kavli Royal Society Centre at Chicheley Hall, enjoying the format for meetings there which allows much greater flexibility for information exchange and debate.

Following a successful meeting in London on *Language in developmental and acquired disorders*, Professor Dorothy Bishop FMedSci FBA led a programme entirely devoted to discussion at Chicheley Hall. The scientists adopted a 'Nation rule', named after co-organiser Professor Kate Nation, encouraging younger researchers to have their say. Participant feedback reflects the success of this novel approach.



**“This event, in particular, stood out for me in terms of the mix of participants – gurus, mid-career, developing and new researchers and practitioners – and the quality, atmosphere, collegial relationships between presenters; the whole mood of the meeting was simply lovely.”**

Feedback from *Language in developmental and acquired disorders: converging evidence for models of language representation in the brain*, organised by Professor Dorothy Bishop FMedSci FBA, Professor Kate Nation and Professor Karalyn Patterson FMedSci FBA in June 2013.

“This was a superb meeting, with an innovative combination of speakers of superb quality on the whole which generated fantastic discussion. The venue was superb and all organisation excellent. Very useful meeting.”

Feedback from a Royal Society scientific programme meeting.

## Royal Society Scientific discussion meetings 2013/14

### ***Cellular polarity: from mechanisms to disease***

Organised by Dr Rafael Edgardo Carazo Salas, Dr Attila Csikasz-Nagy and Dr Masamitsu Sato  
15 – 16 April 2013

### ***eFutures: beyond Moore's Law***

Organised by Professor David Cumming, Professor Steve Furber CBE FREng FRS and Professor Douglas Paul  
13 – 14 May 2013

### ***Language in developmental and acquired disorders: converging evidence for models of language representation in the brain***

Organised by Professor Dorothy Bishop FMedSci FBA, Professor Kate Nation and Professor Karalyn Patterson FMedSci FBA  
10 – 11 June 2013

### ***Origin of the moon***

Organised by Professor Alex Halliday FRS and Professor David Stevenson FRS  
23 – 24 September 2013

### ***X-ray lasers in biology***

Organised by Professor Henry Chapman, Dame Louise Johnson DBE FRS and Professor John Spence  
14 – 15 October 2013

### ***Alfred Russel Wallace and his legacy***

Organised by Professor Dianne Edwards CBE FRS, Dr George Beccaloni, Professor Steve Jones FRS and Sir Ghilleen Prance FRS  
21 – 22 October 2013

### ***Ancient DNA: the first three decades***

Organised by Professor Erika Hagelberg, Professor Michael Hofreiter and Dr Christine Keyser  
18 – 19 November 2013

### ***Long-term potentiation: enhancing neuroscience for 40 years***

Organised by Professor Tim Bliss FRS, Professor Graham Collingridge FRS and Professor Richard Morris FRS  
2 – 3 December 2013

### ***Before, behind and beyond the discovery of the Higgs Boson***

Organised by Professor John Ellis CBE FRS, Professor David Charlton and Professor Sir Tejinder Virdee FRS  
20 – 21 January 2014

### ***Phylogeny, extinction risks and conservation***

Organised by Professor Mark Chase, Professor Keith Crandall, Dr Daniel Faith and Dr Felix Forest  
10 – 11 March 2014

## Theo Murphy meetings at the Kavli Royal Society Centre at Chicheley Hall 2013/14

### ***Space in the brain: cells, circuits, codes and cognition***

Organised by Dr Tom Hartley, Professor John O'Keefe FRS, Professor Neil Burgess and Dr Colin Lever

1 – 3 May 2013

### ***New models and observations of the Southern Ocean, its role in global climate and the carbon cycle***

Organised by Professor Andrew Watson FRS, Professor John Marshall and Dr Mike Meredith

16 – 17 July 2013

### ***New approaches in coronal heating***

Organised by Dr Ineke De Moortel and Professor Philippa Browning

2 – 3 September 2013

### ***Many body quantum optics and correlated states of light***

Organised by Dr Jonathan Keeling, Professor Steven Girvin, Dr Michael Hartmann and Professor Peter Littlewood FRS

28 – 29 October 2013

### ***Heterotic computing: exploiting hybrid computational devices***

Organised by Dr Viv Kendon, Professor Susan Stepney and Dr Angelika Sebald

7 – 8 November 2013

### ***Frontiers of computer simulation in chemistry and materials science***

Organised by Professor David Manolopoulos FRS, Professor David Logan, Dr Mark Wilson and Professor David Chandler ForMemRS

6 – 7 February 2014

### ***The Newtonian constant of gravitation, a constant too difficult to measure?***

Organised by Dr Terry Quinn CBE FRS, Professor Clive Speake and Professor Jun Luo

27 – 28 February 2014

### ***Emergence of new exotic states at interfaces with superconductors***

Organised by Dr Jason Robinson, Professor Lesley Cohen, Professor Matthias Eschrig and Professor Alexander Brinkman

27 – 28 March 2014

“This was an inspiring meeting. It was one of the best meetings I have been to in my ten year career.”

Feedback from a Royal Society scientific programme meeting.



**Above**  
Professor Athene Donald DBE FRS, Royal Society Council member pictured with the certificate for the Nobel Prize for Chemistry 1964, awarded to Dorothy Hodgkin FRS (held in the Society's collections). At the time Dorothy Hodgkin was only the third woman to win the prize and coincidentally the third woman to be elected to the Royal Society Fellowship – in 2015 the Society will celebrate 70 years since it first welcomed female Fellows.

## Diversity

The Royal Society is committed to promoting diversity in UK science, technology, engineering medicine and mathematics (STEMM) by seeking to increase participation from underrepresented groups. Over the past year considerable progress has continued to be made to embed diversity at the Royal Society through its joint diversity programme with the Royal Academy of Engineering and its own Equality and Diversity Advisory Network (EDAN).

At the end of April 2013, the Society held its first ever Diversity Day, a one-day conference chaired by Professor Dame Julia Higgins DBE FRS FREng and Professor Ed Hinds FRS to showcase a range of activities that have taken place over the past 12 months and upcoming projects promoting diversity in UK STEMM. Diversity Day provided the opportunity to launch the new Royal Society diversity web pages at [royalsociety.org/about-us/diversity](http://royalsociety.org/about-us/diversity). This successful event will become an annual activity in the Society's calendar to celebrate various aspects of diversity each year.

Towards the end of the year the Society announced its intention to be a signatory to the Department for Business, Innovation and Skills Women into Technology and Engineering Compact, launched in May 2014.



## Wikipedia 'edit-a-thons'

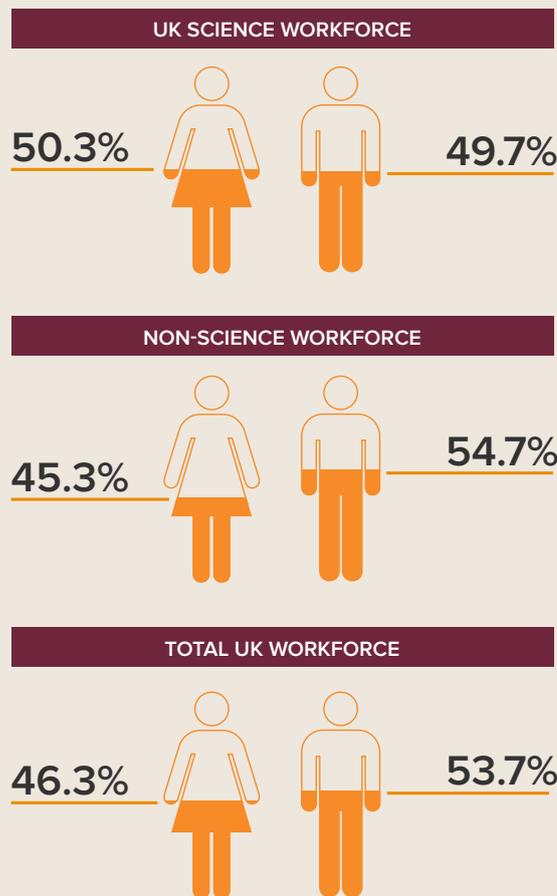
A series of six Wikipedia Women in Science 'edit-a-thon' events took place in collaboration with the Medical Research Council (MRC) and Wikimedia UK, which highlighted the wealth of outstanding female scientists across science over the last century, as part of the MRC's centenary celebrations. A further 'edit-a-thon' was held to celebrate International Women's Day 2013, including a panel session led by Professor Uta Frith FRS, which featured widely in the press and resulted in all female Fellows having an up-to-date Wikipedia entry.

## Data report

As part of the Royal Society's diversity programme the Society set out to define and understand the scientific workforce in relation to gender, disability, ethnicity and socio-economic status and background. It commissioned several data gathering exercises to explore these issues and a summary report was published in March 2014 presenting the main findings from the data, highlighting where there are gaps in data or questions the data could not answer and setting out a number of recommendations. The main research reports and data tables have been published alongside the summary and are available to download on the Society's website, [royalsociety.org/policy/projects/leading-way-diversity](http://royalsociety.org/policy/projects/leading-way-diversity).

The summary describes the diversity of the UK's scientific workforce based on three separate commissioned analyses of different datasets. The first uses the Annual Population Survey 2011 to provide a snapshot of the current scientific workforce compared with the overall workforce. The second looks at the career progression of a cohort of mid-career individuals, using the longitudinal British Cohort Study of over 16,000 people who were born in 1970. The third focuses on the university sector, examining the destinations of people leaving higher education, based on data from the Higher Education Statistics Agency over a period of five to six years.

The findings from this report will feed into recommendations for the development of work programmes to increase the diversity of the scientific workforce. It is hoped that together with other learned societies, interested organisations, employers and colleagues in government, the Society can address some of the issues and gaps in data that these exercises have highlighted and work to build a fuller picture of the scientific workforce in relation to diversity, so that diversity and inclusion initiatives can be better targeted.



Data source: TBR and Science Council (2012), *Leading the way: increasing diversity of the UK Science workforce*.

### Above

Graphic showing the relative gender differences in the UK scientific workforce. Data collected as part of the report *A picture of the UK scientific workforce: Diversity data analysis for the Royal Society*. Data source: TBR and Science Council (2012), *Leading the way: increasing diversity of the UK Science workforce*.



#### Oral history project: inspiring scientists

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In 2013 the Royal Society commissioned the British Library's National Life Stories (oral history collections held in the British Library Sound Archive) team to undertake an oral history project focusing on scientists from different ethnic groups as part of the Library's project, *An oral history of British science*. The project charts the life stories of ten British scientists, focusing on the interplay of subjects such as universities, learned societies, and ethnic diversity within their lives. Interviewees range from Professors to PhD students and

including a Fellow of the Royal Society, Professor Harry Bhadeshia FRS. The range of science is extensive, covering academia, big industry and individual entrepreneurship. The project report, along with supporting video and audio of the scientists' interviews launched on the Society's website in May 2014. Clips from the interviews, featuring space scientist and science broadcaster Maggie Aderin-Pocock, are available on the Society's website at [blogs.royalsociety.org/inside-science/recording-diverse-lives-in-science](https://blogs.royalsociety.org/inside-science/recording-diverse-lives-in-science).

#### Above

Dr Mark Richards, physicist and co-founder of Duvas Technologies Ltd, one of the scientists involved in the Society's oral history project with the British Library.

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## Disability History Month

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In celebration of Disability History Month 2013 (22 November – 22 December 2013), the Society put together a series of research profiles to raise awareness about scientific research in disability. The profiles captured a range of disabilities and the variety of research currently being carried out in this field. This included exploring aspects of historical research on disability carried out by Fellows of the Royal Society and 'image-led' profiles from current researchers on their areas of work in disability,

incorporating everything from the ground-breaking research in the application of Müller stem cells in repairing visual function in patients with late stages of glaucoma, to developing assisted movement devices in games to help children with cerebral palsy. All the features have been brought together on the Society's web pages at [royalsociety.org/disability-history-month-2013](http://royalsociety.org/disability-history-month-2013).



**Left**

An athlete taking part in a study on 'pushing economy' for Professor Vicky Tolfrey, Director of the Peter Harrison Centre for Disability Sport at Loughborough University.

**“I’m often required to learn about very technical things very quickly... having access to experts who can explain the details and the way that my decisions would affect them in their field and in their profession is very valuable.”**

Ms Nicola Blackwood  
MP who was paired with  
Professor Kathryn Wood.



**“For me it’s a great chance to learn about bits of science I know nothing about.”**

Dr Julian Huppert MP  
who was paired with  
Dr Jatinder Singh

#### **Pairing scheme for scientists, parliamentarians and civil servants**

This year’s Pairing scheme, which builds links between parliamentarians, civil servants and some of the UK’s best research scientists, saw 36 scientists take part, representing a wide range of universities, research institutions and industry. 16 scientists were paired with MPs, one scientist was paired with a Member of the House of Lords for the first time and 19 scientists were paired with civil servants across a number of departments including the Department of Energy and Climate Change, the Department of Health and the Department for Transport. Scientists were active across social media including Twitter and LinkedIn, allowing scientists participating in the scheme to stay in touch.



**Above**  
Professor Kathryn Wood  
(left) and Ms Nicola  
Blackwood MP (right).

**Right**  
Dr Julian Huppert (left) and  
Dr Jatinder Singh (right).

## Pairing scheme for scientists, parliamentarians and civil servants

Professor Seif Shaheen, Professor of Respiratory Epidemiology at St Bartholomew's Hospital and The London School of Medicine at Queen Mary University of London (QMUL), took part in the Pairing scheme in 2013 with Lord Winston.

Professor Shaheen's research is focused on trying to discover the causes of asthma and chronic obstructive pulmonary disease in order to find ways to prevent these conditions. He applied for the scheme to find out more about how scientific evidence can be translated into science policy, how political decisions are made on scientific and public health issues, the barriers that exist to implementing policy and how scientists can work with politicians to overcome them. Lord Winston is a distinguished medical scientist, television presenter and a Member of the House of Lords Science and Technology Select Committee.

Professor Shaheen commented: "I learned such a lot during my week in Westminster and enjoyed my time shadowing Lord Winston – it was a privilege to be paired with him. Highlights included attending the House of Lords Science and Technology Select Committee meetings – I now feel better prepared should I ever be called to give oral evidence to such a committee".

As a former student at the London Hospital Medical College, Lord Winston was particularly happy to come back to QMUL for the reciprocal visit. He said: "I look forward to returning to my old medical school and learning more about the research that Professor Shaheen and his team are undertaking". During the visit he received an overview of the respiratory research Professor Shaheen's team are currently engaged in and spent time at the Centre of the Cell, a science and health education centre and outreach project showcasing public engagement, where Lord Winston (also Professor of Science and Society at Imperial College) interacted with schoolchildren as they learned about cells and the cell based medical research going on at QMUL.

**"The Pairing scheme has been a wonderful experience which I strongly recommend to colleagues."**

Lord Winston, paired with Professor Seif Shaheen



**Right**  
Lord Winston, paired with Professor Seif Shaheen for the Society's Pairing scheme 2013.



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013/14

Awards 2013



## Recognising excellence in science

The Royal Society rewards the excellence and creativity of scientists no matter who they are, or where they are from, electing the best to be Fellows and Foreign Members and giving awards to those scientists who are making a major contribution to society.

**Left**

Dr Abdoulaye Diabate,  
winner of the Royal Society  
Pfizer Award 2013.

# Recognising excellence in science

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**“Put simply: this was one of the most exciting meetings I have attended over the past ten years or so. Very good presentations, very good interchanges. Very encouraging, a worthwhile initiative.”**

Feedback provided by a Fellow (supplied anonymously).

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**“As a new Fellow, this weekend was a fantastic way to meet some of the other Fellows in a relaxed setting, enjoy learning about aspects of science in its many disciplines, and really feel part of the Society.”**

Feedback provided by a Fellow (supplied anonymously).

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## The Fellowship

Forty-four Fellows, eight Foreign Members, one Honorary Fellow and one Royal Fellow were elected to the Society in May 2013. New Fellows were admitted at a three-day event in July during which each gave a seminar on their research. At 31 March 2014 there were 1,386 Fellows, and 155 Foreign Members. A full list of Fellows elected in 2013 can be seen on pages 27 – 29 of this report.

The Fellowship Programme, launched in 2012, continued to flourish during 2013/14, making progress against its aim to improve engagement with the Fellows and provide opportunities for Fellows to discuss science with each other and Royal Society business with the President, Sir Paul Nurse and other Officers of the Society. During the year there have been seven regional meetings with the President across the UK and further afield, including Belfast, Dublin, Edinburgh, Glasgow, London, Norwich, India and Toronto. A wide range of topics have been discussed at these meetings including elections to the Fellowship, public engagement with science, funding for science, Royal Society activities outside London, climate science, and scientific misconduct.

Two further Fellows research weekends were held at the Kavli Royal Society Centre at Chicheley Hall, including one focused on science in industry and translation as part of the ‘Year of Science and Industry’ hosted by Dr Simon Campbell CBE FRS and Sophie Wilson FRS. Additional speakers included Professors Shankar Balasubramanian FRS, Paul O’Brien FRS, Steve Furber FRS, with a keynote given by Sir Tom Blundell FRS, all of which focused on Fellows experiences in industry and translating their research within industrial science. The second weekend was hosted by Professors Georgina Mace FRS and John McWhirter FRS and involved a number of new Fellows elected in 2013, including Professors Gillian Griffiths FMedSci FRS, Joanna Haigh FRS, and Harry Anderson FRS.

## Medals and awards

### Pfizer Award: the battle against malaria

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The Royal Society Pfizer Award is made to scientists working in the biological sciences to promote capacity building in Africa. Dr Abdoulaye Diabate was awarded the 2013 Royal Society Pfizer Award for his work on new tools to target mosquito swarms responsible for the spread of malaria. Dr Diabate, who is investigating the mating systems of *Anopheles gambiae* (a number of mosquito species primarily responsible for the transmission of malaria) will receive £60,000 towards a study which aims to cut the mosquito's high reproductive rate and control the spread of malaria as a result.

Current malaria control techniques have cut down the malaria burden in many endemic areas, however the emergence and rapid spreading of insecticide and drug resistance undermine these efforts. There is growing concern that malaria eradication will not be achieved without the introduction of new control tools. On receiving the award Dr Diabate said: "The Royal Society Pfizer Award is such a wonderful and motivating award for African scientists. Not only does the prize boost high quality research in Africa by empowering the African research institutes but in my specific case it will also allow me to acquire the skills and knowledge that can help us win the battle against malaria."



**Above**  
Dr Abdoulaye Diabate,  
winner of the Royal Society  
Pfizer Award 2013.



**Professor Geim was awarded the 2010 Nobel Prize in Physics jointly with Professor Sir Konstantin Novoselov FRS (above) for his work on graphene. Additionally, Professor Novoselov received the 2013 Royal Society Leverhulme medal for revolutionary work on graphene, other two-dimensional crystals and their heterostructures, that has great potential for a number of applications, from electronics to energy. The Society's Leverhulme medal is awarded triennially for "an outstandingly significant contribution in the field of pure or applied chemistry or engineering, including chemical engineering".**

**Right**  
Professor Sir Andre Geim FRS (on the right) receives the Royal Society Copley medal 2013 from Sir John Pethica FRS, Physical Secretary of the Royal Society.

## Medals and awards

### Copley medal: the application of graphene

19 medals were awarded by the Society in 2013 to recognise excellence in science. Professor Sir Andre Geim FRS received the Copley medal – believed to be the world's oldest scientific prize – for his numerous scientific contributions and in particular his work on graphene. Graphene is a form of carbon just one atom thick, with record-breaking mechanical strength and electronic properties. It was discovered at the University of Manchester in 2004 and is now widely acknowledged as a 'super-material' with countless applications ranging from flexible electronic screens or 'e-paper' to drug delivery and regenerative medicine.

Of his award Professor Sir Andre Geim FRS said: "I am absolutely delighted to receive this old and prestigious award. Not only am I humbled, I also feel younger."

Sir Paul Nurse, President of the Royal Society, said: "I'm delighted that the Copley medal has been awarded to Andre Geim this year. Chancellor George Osborne highlighted graphene as one of the many exciting areas of science the UK should exploit during his speech on science as a UK economic driver given at the Royal Society."

The Copley medal was first awarded by the Royal Society in 1731, 170 years before the first Nobel Prize. It is awarded for outstanding achievements in scientific research and has been awarded to such eminent scientists as Charles Darwin FRS, Michael Faraday FRS, Albert Einstein ForMemRS and Stephen Hawking FRS.



## New Fellows 2013\*



Professor Harry Anderson FRS, University of Oxford



Professor Judith Armitage FRS, University of Oxford



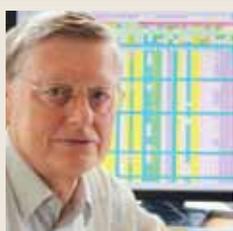
Professor Keith Ball FRS, University of Warwick



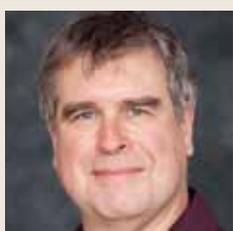
Professor Michael Bevan FRS, John Innes Centre



Professor Mervyn Bibb FRS, John Innes Centre



Sir Stephen R Bloom FMedSci FRS, Imperial College London



Professor Gilles Brassard FRS, Université de Montréal, Canada



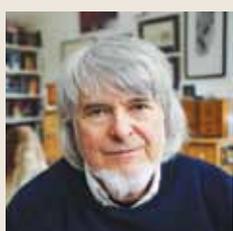
Dr Michael Burrows FRS, Google Inc.



Professor Jon Crowcroft FRS, University of Cambridge



Lord Ara Darzi PC KBE FMedSci HonFREng FRS, Imperial College London and The Institute of Cancer Research.



Professor William Earnshaw FMedSci FRS, University of Edinburgh



Professor Gerard F Gilmore FRS, University of Cambridge



Professor Nigel Glover FRS, Durham University



Professor Raymond E Goldstein FRS, University of Cambridge



Professor Melvyn Goodale FRS, University of Western Ontario, Canada



Professor Martin Green AM FRS, University of New South Wales, Australia



Professor Gillian Griffiths FMedSci FRS, Cambridge Institute for Medical Research



Professor Joanna Haigh CBE FRS, Imperial College London



Dr Phillip Hawkins FRS, The Babraham Institute, Cambridge



Professor Edith Heard FRS, Institut Curie, France

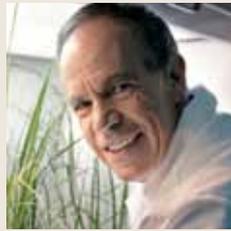
\* Please note the details of new Fellows were correct at the time of election to the Royal Society Fellowship.



Professor Gideon Henderson FRS, University of Oxford



Professor Guy Lloyd-Jones FRS, University of Bristol



Professor Stephen P Long FRS, University of Illinois, USA



Dr Nicholas Lydon FRS, Cambridge, USA



Professor Anne Mills CBE FMedSci FRS, London School of Hygiene and Tropical Medicine



Professor Paul O'Brien FRS, University of Manchester



Professor William Richardson FMedSci FRS, University College London



Professor Gareth Roberts FRS, University of Warwick



Professor Kerry Rowe FEng FRS, Queen's University, Canada



Sir John Savill FMedSci FRS, University of Edinburgh



Professor Christopher Schofield FRS, University of Oxford



Professor Paul M Sharp FRS, University of Edinburgh



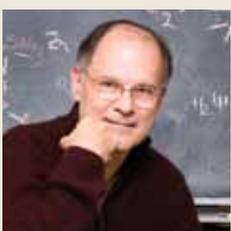
Professor Stephen Simpson FRS, University of Sydney, Australia



Professor Terry Speed FRS, Walter and Eliza Hall Institute of Medical Research, Australia



Professor Maria Grazia Spillantini FMedSci FRS, University of Cambridge



Professor Douglas W Stephan FRS, University of Toronto, Canada



Professor Brigitta Stockinger FMedSci FRS, MRC National Institute for Medical Research, London



Dr Alan Turnbull FEng FRS, National Physical Laboratory



Dr Jean-Paul Vincent FMedSci FRS, MRC National Institute for Medical Research, London



Professor Andrew Wilkie FMedSci FRS, University of Oxford



Ms Sophie Wilson FEng  
FRS, Microprocessor  
Architect



Professor Terry Wyatt  
FRS, University of  
Manchester



Professor Julia Yeomans  
FRS, University of Oxford



Professor Robert Young  
FEng FRS, University  
of Manchester

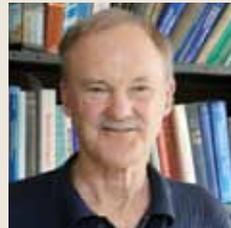
**Foreign Members**



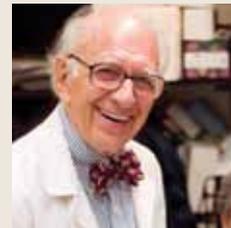
Professor Margaret  
Buckingham ForMemRS,  
Institut Pasteur, France



Professor Chen Zhu  
ForMemRS, Shanghai Jiao  
Tong University School of  
Medicine, China



Professor John  
Hutchinson ForMemRS,  
Harvard University, USA



Professor Eric Kandel  
ForMemRS, Howard  
Hughes Medical  
Institute, USA



Professor Elliott Lieb  
ForMemRS, Princeton  
University, USA



Professor Kyriacos C  
Nicolaou ForMemRS,  
Rice University



Professor Randy  
Schekman ForMemRS,  
University of California,  
Berkeley, USA



Professor Eli  
Yablonovitch ForMemRS,  
University of California,  
Berkeley, USA

**Honorary Fellow**



Mr Bill Bryson FRS  
Author



HRH Prince Andrew  
The Duke of York  
KG GCV O FRS

**Royal Fellow**



## Supporting outstanding science

Through its Research Fellowships and funding programmes, the Royal Society works in partnership with universities and industry, both within the UK and internationally, to support excellent scientists.

**Left**

Dr Gavin Andrews,  
(right) Royal Society  
Industry Fellow.

# Supporting outstanding science

**“My Dorothy Hodgkin Fellowship has given me the invaluable freedom and flexibility to develop an exciting scientific research career whilst caring for my young family, making it possible for me to pursue both my dream jobs. The support, encouragement, and opportunities provided by the Royal Society are fantastic.”**

Dr Rosalind Coggon,  
Royal Society Dorothy  
Hodgkin Fellow.

**“It goes without saying that this Fellowship means a lot to me as an individual and as a scientist. The Royal Society and Wellcome Trust’s open dialogue and personal touch turned one risky idea into the most exciting project I have been part of in my scientific career.”**

Dr Maciej F Boni, Royal  
Society Sir Henry Dale  
Fellow.

## Sir Henry Dale Fellowships

This recently established Fellowship programme is jointly funded by the Royal Society and the Wellcome Trust. It supports outstanding post-doctoral scientists wishing to address an important biomedical question and it enables the best researchers to build their own independent research career in a UK based research institution. 27 Sir Henry Dale Fellows were appointed in 2013 (45 scientists are currently supported under this scheme).

## Industry Fellowships

These Fellowships are funded by the Royal Society, the Engineering and Physical Sciences Research Council, the Biotechnology and Biological Sciences Research Council, the Natural Environment Research Council, Rolls-Royce plc and BP. They support knowledge transfer between industry and academia. 11 Industry Fellows were appointed in 2013/14 and 51 scientists are currently supported under this scheme.

The Industry Fellows’ Network was set up in 2012 with the purpose of bringing together researchers from both academia and industry to share learning. The Network uses the social media platform LinkedIn to bring together researchers and over 100 current and former Industry Fellows attended an annual networking event at the Society in 2013. Industry Fellows are currently developing plans to formalise their network in 2014 to progress its aims to promote debate, disseminate good practice and develop greater networking opportunities. For more information about the Society’s work in industry see page 9, ‘Promoting science and its benefits’.

41 new Research Fellows were appointed to the Society’s University Research Fellowship scheme in 2013 – they join a total of 283 scientists currently supported under the scheme which provides up to eight years’ support to outstanding scientists with the potential to become leaders in their field.

Six new Dorothy Hodgkin Fellows were appointed in 2013, joining a scheme that provides up to five years’ support and offers a recognised first step into an independent research career for excellent scientists for whom career flexibility is essential. 33 scientists are currently supported under this scheme.

Over 130 of the Society’s Research Fellows, including University Research Fellows, Sir Henry Dale Fellows, Dorothy Hodgkin Fellows and Industry Fellows, came together at the Society in March 2014 to hear 39 speakers representing a broad range of scientific disciplines at the Research Fellows conference.

The programme was designed by a working group of Research Fellows to encourage a multi-disciplinary approach and make the most of opportunities for networking.



**Dr Maciej F Boni, Sir Henry Dale Fellow, Oxford University Clinical Research Unit, Vietnam**

“My Fellowship focuses on understanding the dynamics and drivers of tropical influenza epidemics. Unlike temperate countries’ influenza epidemics – which coincide with winter – tropical influenza epidemics occur irregularly and come in many different shapes and sizes. My research team and I are based in southern Vietnam where we have combined a range of seroepidemiological, virological, and clinical studies, with the hope of reconstructing a complete picture of Vietnam’s past influenza outbreaks.

Recently, we have found that there may be large numbers of unreported infections, and that the clinical measures (runny nose, cough, fever) that we use in the UK to diagnose influenza may have very little correlation to the circulation of the influenza virus in tropical countries. There is far too little data on influenza in this part of the world, so we do not even know if these observations are normal.

The project so far has meant a great deal to PhD students and laboratory staff in Vietnam. As an example, we have introduced a cutting-edge laboratory process in Vietnam that allows us to test for a large number of influenza antibodies with small volumes of serum. Building this laboratory and analytical capacity has placed these students in ideal positions to seek research positions abroad at the project’s conclusion.

It goes without saying that this Fellowship means a lot to me as an individual and as a scientist. The Royal Society and Wellcome Trust’s open dialogue and personal touch turned one risky idea into the most exciting project I have been part of in my scientific career.”

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# 41

new Research Fellows were appointed to the Society’s University Research Fellowship scheme in 2013.

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# 6

new Dorothy Hodgkin Fellows were appointed in 2013.

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Over

# 130

of the Society’s Research Fellows attended the Research Fellows conference.

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**Dr Gavin Andrews, Royal Society Industry Fellow, School of Pharmacy, Queen's University Belfast**

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"My research is industry-focused and I knew that by working directly with industry it would help identify their needs and would provide an opportunity to develop my own research. This Fellowship would involve both industry and academia working together to solve problems, so it would be beneficial to all involved.

The Royal Society is a prestigious Fellowship and to hold such an award was extremely pleasing personally. It also promotes the University and the School of Pharmacy. I got to experience working in an industrial setting and I gained a better understanding of industry problems in the area of solid dispersions. I found it an invaluable experience working on key issues currently being faced by industry. It allowed me to interact and work alongside experts with a broad range of knowledge across numerous pharmaceutical technologies and processes. Additionally, the Fellowship provided me with the freedom to spend a significant proportion of my time focusing on my research.

As an Industry Fellow, I held a Royal Society International Scientific Seminar which brought together 20 participants including AstraZeneca (my industry partner). One of the outcomes of this discussion meeting was to write a number of joint grant applications, thus building stronger networks of people addressing key industrial problems.

AstraZeneca has been absolutely fantastic to work with and, though my Fellowship has now come to an end, through careful planning my group can still access equipment and facilities there. I am certain that the door is always open for us to continue working with them. We have had joint publications as a result of the Fellowship and hopefully this will continue in the future through our ongoing collaborations.



The Fellowship allowed me to gain a lot of experience and as a result the work that I am doing now is at the forefront of this field. As a consequence of this, our reputation has grown and we are engaged in a number of other research projects with industrial partners. Moreover, we are also forging strong links with other key academic groups in this field which can only help advance our work at Queen's University Belfast.

In addition, having hands-on experience of industry has helped improve my teaching. Our institution prides itself on the quality of teaching provision and through my involvement with AstraZeneca, I can allude to the various experiences that I have had. I have the possibility of embedding research-led teaching within my different teaching activities (lectures, workshops and practical classes). It has been an important stepping-stone and has allowed me to tailor what I teach my students to ensure that they are equipped with the most up-to-date knowledge."

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**Dr Rosalind Coggon, Dorothy Hodgkin Fellow, University of Southampton**

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“My research focuses on the role of submarine volcanism in the long-term carbon cycle and its influence on past climate. Submarine volcanism along mid-ocean ridges produces new ocean crust and is a key component of the plate tectonic cycle. During mid-ocean ridge volcanism, CO<sub>2</sub> gas is released from the magma to the oceans and atmosphere. Seawater that circulates through cracks in the ocean crust is heated and reacts to form carbonate minerals that store CO<sub>2</sub> in the rock. Consequently the formation and evolution of ocean crust enables long-term cycling of carbon through the earth’s system. Using chemical analysis of ocean crust rocks I can look at how past variations in ocean crust production affected ocean chemistry, the carbon cycle, and ultimately the climate.

My Dorothy Hodgkin Fellowship has given me the invaluable freedom and flexibility to develop an exciting scientific research career whilst caring for my young family, making it possible for me to pursue both my dream jobs. The support, encouragement, and opportunities provided by the Royal Society are fantastic. For example, as a member of the working group for the 2014 Royal Society Research Fellows’ Conference, I particularly enjoyed helping to plan a programme of events that explored the breadth of the science supported by the Royal Society and the themes that link such diverse fields of research.”



**Above**  
Dr Rosalind Coggon.

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# 70

Royal Society Wolfson Research Merit Awards were made in 2013.

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## Senior Fellowships

16 Royal Society Research Professors, internationally recognised scientists of outstanding achievement and promise, are provided with ten years support by the Society. An application round opened in June 2013 with a view to making new appointments in 2014.

70 Royal Society Wolfson Research Merit Awards were made in 2013 – offering salary enhancements for up to five years with the aim of attracting or retaining in the UK researchers with great potential or outstanding achievement. These Fellowships are jointly funded by the Society and the Wolfson Foundation and 225 scientists are currently supported under this scheme.

Seven Royal Society Leverhulme Trust Senior Research Fellowships were appointed in 2013. Funded by the Leverhulme Trust, these Fellowships seek to provide opportunities for academic researchers to be relieved of all their teaching and administrative duties to concentrate on full-time research for up to one year.

## Other grants

Six awards were made under the Paul Instrument Fund in 2013 – the scheme was established through the will of the late R W Paul and supports scientists in the UK who want to design and construct a novel instrument to measure phenomena in the physical sciences.

201 Small Research Grants were awarded in 2013, providing 'seed corn' funding to enable young scientists to initiate new projects.

17 Research Grants for Research Fellows were awarded; Research Fellows in the first year of their fellowship can apply for up to £150,000 over three years.

## Training for Research Fellows

The Royal Society offers training programmes for its Research Fellows on a range of subjects including education outreach and communication and media skills. One of the most popular is the 'Innovation and the business of science' course, which was developed by the Society in partnership with Imperial College Business School and over 60 Royal Society Research Fellows attended this programme during the year.

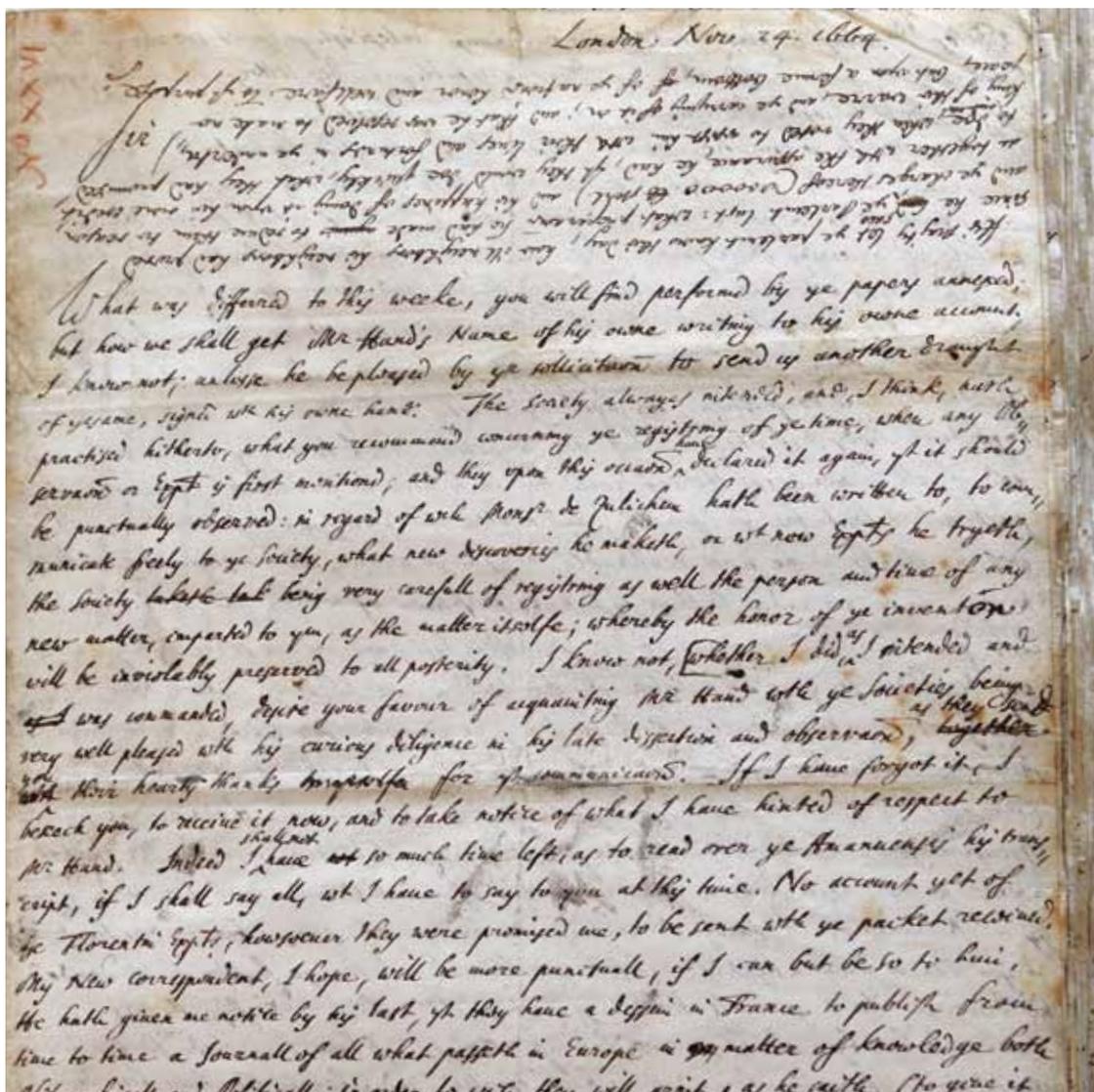
The Society launched a pilot mentoring scheme in May 2013 with the help of Professor Dorothy Griffiths from Imperial Business School. The scheme has been designed to provide career support for newly appointed Royal Society University Research Fellows, Dorothy Hodgkin Fellows and Sir Henry Dale Fellows. Former Research Fellows were invited to act as mentors, enabling 12 early career researchers to benefit from mentoring. Following successful feedback the scheme will continue in 2014/15.

**Royal Society Publishing**  
Publishing 350

In 2015 the Royal Society will celebrate 350 years of the *Philosophical Transactions of the Royal Society* – the world’s first journal dedicated to science. A programme of events will highlight the journal’s achievements and the unique role the Society played in developing the system of scientific communication that is still in use today. At the heart of the anniversary campaign will be a series of debates on the main challenges and controversies facing scientific communication designed to support the development of future policy and practices. Topics for debate are likely to include

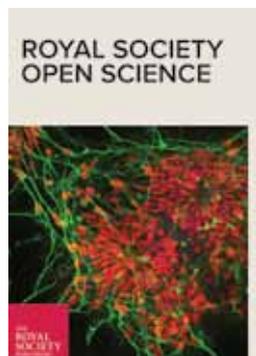
reproducibility in science, the use of impact measures in the assessment of research, peer review, ethics and misconduct, mechanisms of scholarly communication and open science.

The Society will use the campaign to reach out to new international audiences with a scientific discussion meeting on a cross-disciplinary subject with a strong digital communications element. The meeting will be broadcast live across the web, and will invite discussion from scientists around the world using social media tools. The papers from the meeting will be published in the Society’s journal *Interface Focus*.



**Right**  
A portion of Henry Oldenburg’s letter to Robert Boyle dated 24 November 1664, describing how a journal could help scientists establish scientific priority on their findings by “registering as well the person and time of any new matter”.

This letter is held in the Royal Society’s collections.



**Above**  
*Royal Society  
Open Science.*

A major new digital initiative will be launched on 6 March 2015 (the 350th anniversary of *Philosophical Transactions*), entitled *Science stories*. This series of short films will explore major scientific themes which are important today but have their roots in the published archive of the *Philosophical Transactions*. The films will highlight the role the Society and its Fellowship have played, and continue to play, in scientific discovery by tracing the development of major ideas from the original landmark papers in the Society's journals. All the Society's journals will publish special features throughout 2015. These will focus on classic papers from the published archive reviewed and discussed by a contemporary scientist. The Society will host a 'history of the journal' conference to examine the changing sociological context, editorial mechanisms, and economics of scientific publication since its origins.

### *Royal Society Open Science*

In February 2014 the Society announced the launch of a new journal – *Royal Society Open Science* – which will further develop its open access publishing programme. The journal will be exclusively open access and novel in a number of ways. It will cover the entire range of science, engineering and mathematics and will operate 'objective' peer review (publishing all articles which are scientifically sound, leaving any judgement of importance or impact to the reader). The journal will offer the option of open peer review (the identity of reviewers will be made known to the authors and their reports published alongside the article) and will require authors to include their datasets in the articles. It will employ article level metrics (showing the number of citations, downloads and social media activity for each article) and encourage post-publication comments on articles by readers. *Royal Society Open Science* will allow the Society to publish all the high-quality work it receives without restrictions on scope, length or impact and will be overseen by a team of academic subject editors and an editorial board with strong representation from the Fellowship. It will be launched in the autumn of 2014.

## Developing publishing links with China

China is now the second biggest producer of published scientific research in the world and attracting the best Chinese research articles to the Society's journals is a priority for the Society's publishing team. *Philosophical Transactions A* published a special issue, guest edited by Professor Bai Chunli ForMemRS, President of the Chinese Academy of Sciences and Chen Wang, Professor of Physical Chemistry, and Director of the National Center for Nanoscience and Technology in China, entitled *Molecular nanostructure and nanotechnology*, produced to coincide with the

visit of the Society's President Sir Paul Nurse, to China in September 2013 (see page 50 of this report for more information). A number of Chinese scientists have joined the editorial boards of the Society's journals based on a series of nominations from the Chinese Academy of Scientists – including Professor Bai Chunli on the board of *Philosophical Transactions A*.



**Left**  
Sir Paul Nurse, President of the Royal Society (pictured centre), presents Professor Bai Chunli ForMemRS, President of the Chinese Academy of Sciences, with the special edition of *Philosophical Transactions A*, which he guest edited.

**Below**  
Special issue of *Philosophical Transactions A*, entitled *Molecular nanostructure and nanotechnology*.





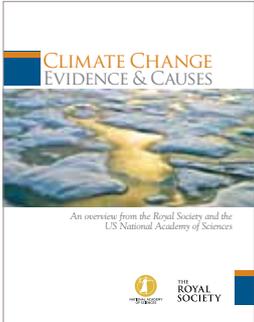
## Providing scientific advice for policy

The Royal Society strives to ensure that policymakers have access to expert, independent, scientific advice, whilst extending the reach, impact and influence of its policy work with UK, European and international decision-makers.

**Left**

Image of coral reef taken from the Royal Society and US National Academy of Sciences joint statement on climate science.

# Providing scientific advice for policy



The Royal Society and US National Academy of Sciences (NAS) joint statement on climate science (published in February 2014) reached 600,000 people via social media.

## Making the economic case for science

The Royal Society has worked closely with its sister UK national academies (the Academy of Medical Sciences, the British Academy and the Royal Academy of Engineering), to engage the government as it considered future public spending decisions. The four academies published a joint statement entitled *Fuelling prosperity* in April 2013 that highlighted research and innovation as drivers of UK growth and competitiveness. The statement was well received by the scientific community and the Department for Business, Innovation and Skills (BIS) and was discussed on BBC Radio 4's *Today* programme by the Society's President, Sir Paul Nurse and the Business Secretary, Vince Cable MP.

Subsequently, the Society has responded to a formal consultation by BIS and attended numerous meetings to continue to make the economic and social case for science. Highlights include the Society's Physical Secretary, Sir John Pethica FRS, giving evidence on behalf of the Society to the House of Lords Science and Technology Committee for its inquiry into the science settlement and the current spending review.

In June the government maintained the 'flat cash' budget for science into 2015/16. There was also a commitment of £1.1 billion a year to capital investment in science, growing in line with inflation to 2020. The Chancellor of the Exchequer also featured science in his autumn statement and budget speech and spoke of it as a "personal priority".

In the autumn the Society ran a successful series of fringe events at the main party conferences with its sister academies on the question of whether research and innovation can fuel the UK economy. This was followed by the Society hosting the Campaign for Science and Engineering's debate between the three main party spokespeople on science and research – Julian Huppert MP, Liam Byrne MP and David Willetts MP.

## Climate science

Climate science work has been an area of particular focus this year. The US National Academy of Sciences (NAS) and Royal Society joint statement on climate science, answering the major questions on climate science and what scientists are doing to address remaining uncertainty, was published in February 2014. The publication of the statement reinforces the Society's work on climate science since the launch of the Intergovernmental Panel on Climate Change (IPCC) report in September 2013, including a scientific discussion meeting *Next steps in climate science*, organised by Brian Hoskins FRS, which brought together lead authors of the IPCC report and other experts in the field to explore the current understanding and future directions of the science. In October 2013 the Society and the UK Parliamentary Office for Science and Technology held a parliamentary briefing on climate science in Westminster for 120 Members, Peers and parliamentary staff.

A major ongoing project on *Human resilience to climate change* is analysing how ecosystem-based approaches can be effectively used to build human resilience to climate change impacts including storm surges and flash flooding. The project is being carried out using a similar approach to previous Royal Society policy projects, but also incorporates field visits to areas affected by extreme weather to examine measures to build resilience and speak to communities affected.

In May 2013 the Society, in collaboration with the Environmental Defense Fund, TWAS (the academy of sciences for the developing world) and the African Academy of Sciences published the report *Governance of research on solar geoengineering: African perspectives*. This documented the outcomes of three workshops in Senegal, South Africa and Ethiopia respectively, under the aegis of the Solar Radiation Management Governance Initiative, in which the Society is a partner.

In September 2013 the Society published the report of a workshop on *Modelling Earth's future: Integrated assessments of linked human-natural systems*, held in late 2012. The workshop and report were supported by the US-UK Scientific Forum, established by the Raymond and Beverly Sackler Foundation. The workshop brought together over 80 UK and US scientists from two modelling communities – climate and integrated assessment – to discuss the potential and the pitfalls associated with modelling human-natural systems.

### Other major studies

The Royal Society launched its study to identify a vision for UK cybersecurity research in November 2013. This project is looking at the major cybersecurity research challenges likely to emerge during the next five to ten years and the policy frameworks needed in the UK to tackle them. Specific themes emerging from the evidence submitted (research priorities, research exploitation, and research ethics and responsible innovation) will be examined.

In addition to the major policy studies, the Society has hosted events making best use of its convening power to bring together experts and other interested parties on topics as diverse as research misconduct, disaster risk reduction, post-2015 development goals, carbon capture and storage and food production. During the year the Society also responded to numerous government consultation responses, covering subjects such as the ownership of NERC (the Natural Environment Research Council) research centres, government horizon-scanning and women in STEMM (science, technology, engineering, medicine and mathematics) careers.

“ACME continues to be a robust and rigorous voice championing the cause of mathematical education and, as an independent committee, I know that what you [ACME] do is provide a comprehensive and effective challenge to politicians when it comes to a whole range of issues from curriculum design through to professional development.”

Stephen Twigg MP, ACME Annual Conference 2013.

### Education policy

The Royal Society seeks to ensure that government policy for science education is informed by robust advice, working in partnership where appropriate and in particular with ACME (the Advisory Committee on Mathematics Education) and SCORE (Science Community Representing Education).

### ACME (Advisory Committee on Mathematics Education)

ACME aims to influence mathematics education strategy and policies to improve the outcomes of mathematics teaching and learning in England and so secure a mathematically enabled population. During the year ACME wrote detailed responses on issues including the National Curriculum, GCSE and A level.

In November 2013 ACME published its latest report setting out the priorities for professional development of teachers for mathematics against the changing professional development

landscape. The report makes recommendations for improving professional development for teachers, in order to meet the mathematical needs of learners.

ACME was asked by the Department for Education in spring 2013 to convene an expert panel on post-16 core mathematics qualifications. This followed ACME's publication of two reports *Post-16 mathematics: increasing provision and participation* and *Post-16 mathematics: planning for success*. The remit of the independent panel was to draft clear guidelines to inform the development of new Level 3 mathematics qualifications to be used by the Department for Education to decide which future qualifications can be counted as 'core mathematics'. Their report was welcomed by ACME and submitted to the Department for Education in October 2013. In January 2014, the Department for Education published a policy statement on the introduction of post-16 'core mathematics' qualifications.

Following a review of ACME's governance, the Education Committee has recommended that the Society maintains a strong connection with ACME for a further five years, with a review in the fourth year. The Joint Mathematical Council and Royal Society have also agreed to prepare a Memorandum of Understanding clarifying ACME's governance.



**Left**  
Students at Copland Community School taken from the ACME report *Post-16 mathematics: increasing provision and participation*.

### SCORE (Science Community representing Education)

The Society continues to work collaboratively on science education policy through SCORE; in 2013/14, under new Chair Professor Julia Buckingham, SCORE has provided independent advice on a range of areas.

Much of SCORE's work in 2013/14 has focused on changes to curriculum and qualifications. SCORE has worked through a variety of channels – including formal consultation responses, meetings with officials, and correspondence with ministers – to influence and inform ministers and civil servants about the impact of proposed changes, with a particular focus on the new National Curriculum and changes to GCSEs and A levels. SCORE has also worked with others in science education policy to highlight potential consequences associated with changes to the school accountability systems.

In May 2013 SCORE launched the results of a research project on the resourcing of practical science in primary and secondary schools and colleges, which revealed worrying levels of variation – alongside these reports benchmarks for schools to measure their own facilities were published. The research and benchmarks were well received by government, Ofsted and others, and SCORE continues to use them to highlight the need for adequate resourcing of practical science in schools.

SCORE's current Memorandum of Understanding (MoU) and funding came to an end in March 2014 and further funding and a revised MoU have been agreed, to run from April 2014 to March 2019, with a review after three years.

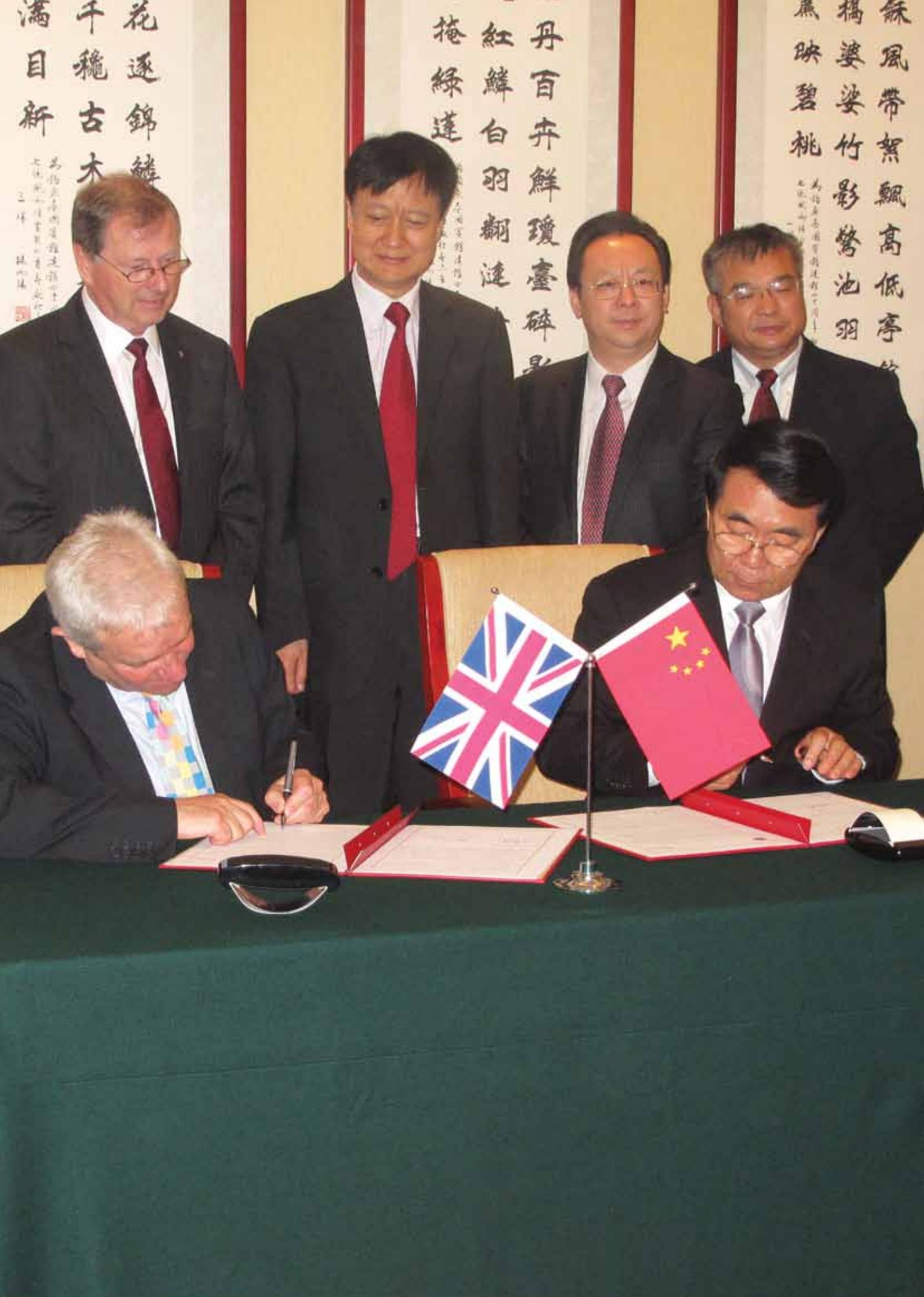


**Left**  
Practical science  
at Sittingbourne  
Community College.

### Vision project

This ambitious project establishes a vision for the future of science and mathematics education for 5 – 19 year olds, based on a 15 – 20 year time horizon. In 2013/14 the focus of the project has been to establish close relationships with influencers, to test findings and recommendations and seek input ahead of the report's launch. This included a conference hosted at the Scottish Parliament with a wide range of members of the Scottish educational landscape and a national programme of activities bringing together teachers, students and education researchers as well as representation from across the maths and science community, to explore their role in the Vision. The final report, launched in June 2014, emphasises that science and mathematics are at the heart of modern life – they are essential to our understanding of the world and we need an education system that produces scientifically literate citizens.

The Royal Society's work in education outreach is covered in the section 'Education and public engagement' on page 55 of this report.



蘇風帶絮飄高低亭館  
揭婆婆竹影驚池羽  
燕映碧桃

丹百卉鮮瓊臺碎影  
紅鱗白羽翻連  
掩綠蓮

花逐錦鱗  
千穉古木  
滿目新

## Fostering international and global cooperation

Science is an international activity and the Royal Society is strengthening links with academies, funders and governments in Europe, the United States and beyond as well as supporting other countries who are building their own scientific strength.

This year saw the preparation of an International Strategy to underpin the Royal Society's Strategic Plan 2012 – 2017, which commits the Society to extend the reach, scale, visibility and impact of its international activities and to explore new ways of working.

**Left**

Sir Paul Nurse, President of the Royal Society (left) and Professor Bai Chunli ForMemRS, President of the Chinese Academy of Sciences (right) signing a joint statement on the importance of investment in science. See page 50 for more information.

# Fostering international and global cooperation

For the first time in nearly 50 years, the Commonwealth's leading scientists are coming together under the aegis of the Royal Society and supported by the government of India for a conference in Bangalore in November 2014.

## Working in partnership on global issues

The Royal Society continues to demonstrate international leadership in science and science policy, through its membership of multilateral organisations, its central role in their governance and its participation in international meetings.

Under the UK's G8 Presidency, the Society hosted a unique meeting of G8 Science Ministers and Academy Presidents, chaired jointly by the Society's President, Sir Paul Nurse and the Universities and Science Minister, David Willetts MP. The meeting focused on how the G8 nations can lead efforts to improve the transparency, coherence and coordination of the global research enterprise in order to help address worldwide challenges. It included sessions on open data (drawing on the Society's report, *Science as an open enterprise*) and open access (see page 31, 'Supporting outstanding science'). A ministerial statement establishing

broad consensus on global science issues was presented to the Chancellor of the Exchequer, George Osborne MP.

The Society also participated in a meeting hosted by the Indian National Science Academy (INSA), attended by 15 national academies. Statements on *Drug resistance to infectious agents – a global threat to humanity* and *Driving sustainable development – the role of science, technology and innovation*, were approved by Council and distributed to national and international agencies. Also at INSA, Sir Paul Nurse delivered the 2013 Blackett/Bose Memorial Lecture, an exchange lecture held between India and the UK.

An illustration of science diplomacy in action, in 2013 the Society facilitated an unprecedented collaboration between North Korean scientists and partners from the UK, US and China. Underpinned by a Memorandum of Understanding and research agreements

### Below

Under the UK's G8 Presidency, the Society held a meeting of G8 Science Ministers and Academy Presidents.



between participating institutions, the partnership focuses on seismological monitoring of the volcano Mount Paektu in North Korea.

In another complex, multi-partner project, the Jordan report of the *Atlas of Islamic World Science and Innovation* project was launched in Amman.

### **Strengthening links with European academies, funders, and governments**

Noting the significance of European regulation for UK legislation and policy-making and the importance of European funding for science, the Royal Society is committed to engagement at European level. Work is focusing on two areas – advocacy for the principles and practice of independent expert scientific advice in EU policymaking and excellence as the main criterion for EU research funding. The Society hosted the UK launch of Horizon 2020 (the EU Framework Programme for Research and Innovation) with the European Commissioners for Research, Innovation and Science, and Education, Culture, Multilingualism and Youth giving keynote speeches.

The Society is a member of the European Academies Science Advisory Council (EASAC), a grouping of the academies of science of the EU27 nations that produces reports and statements on areas of science policy relevant to members of the European Council, Parliament, Commission and other agencies. EASAC has issued a number of reports this year, including adaptation to extreme weather, carbon capture and storage, and sustainable agriculture.

### **Strengthening activities with the Commonwealth and countries where science is rapidly growing**

For the first time in nearly 50 years, the Commonwealth's leading scientists are coming together under the aegis of the Royal Society for a major conference. The Commonwealth Science Conference, which is being organised with the Indian government, will be held in Bangalore in November 2014 and plans are underway to ensure it meets its objectives to celebrate excellence in Commonwealth science, facilitate cooperation between scientists in different Commonwealth countries, inspire younger scientists, and build capacity in developing Commonwealth countries.

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**Following his visit to China in 2013, the Society's President, Sir Paul Nurse, wrote to the Chancellor of the Exchequer, George Osborne MP, about the need to raise UK/China scientific collaboration to a much higher level, an intervention that helped secure £100m for work with China over the next five years under the terms of the Newton Fund.**

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**Right**

Sir Paul Nurse gives a lecture on *Making science work* at the CAS University in China.

**Below**

Students at the *Making science work* lecture.

**China**

The Royal Society's relations with China have developed significantly this year, with the Society's President, Sir Paul Nurse, Treasurer Professor Anthony Cheetham, Executive Director Dr Julie Maxton and Rapela Zaman from the Society's Science Policy Centre visiting the country in September 2013. High-level meetings were held with the Chinese Academy of Sciences (CAS), with the President signing a joint statement on the importance of investment in science and visiting the Chinese Association for Science and Technology, the Ministry of Science and Technology and the National Natural Science Foundation of China. The President also made a speech at the CAS University on *Making science work* – highlighting the value of science and research on global challenges. Following his visit, the President wrote to the Chancellor of the Exchequer, George Osborne MP, about the need to raise UK/China scientific collaboration to a much higher level. Since then the government has announced funding of £100m for the UK to work with China over the next five years under the Newton Fund (designed to promote collaborations between the UK and a range of emerging scientific powers including China).

In April 2013 a joint workshop was held with CAS on *Research evaluation* to support the ongoing implementation of CAS's Institution level reviews ('expert diagnosis reviews'). China was also one of three countries with which the Society held *Frontiers of Science* meetings this year, together with Brazil and Germany (these international meetings bring together outstanding early-career scientists, organised in conjunction with national academies and scientific organisations around the world).

### South Korea

South Korea has been a country of focus for the Society this year. During a visit from the South Korean Science Minister, the President of the Institute for Basic Science and the President of the National Science Museum, the Society signed a Memorandum of Understanding with the Institute for Basic Science, committing to two scientific workshops a year. In March 2014 Sir Paul Nurse visited South Korea for the first time, meeting the Science Minister and some of South Korea's leading scientists and policymakers, as well as delivering lectures at two of Korea's universities.

### Building capacity in science in Africa

With support from the Department for International Development (DFID), the Society has set up a new programme, the Royal Society-DFID Africa Capacity Building Initiative, to strengthen research and training capacity across sub-Saharan Africa by creating sustainable scientific networks. DFID will provide £15.3 million towards this scheme which will consist of two phases of awards. The first phase consists of Network Grants which provide funding for the assembly of research consortia and 20 awards were made in 2013. The second phase consists of Programme Grants which will support consortia consisting of African groups and one UK-based laboratory and applications for these opened in late 2013.

During the year, five awards were made under the Leverhulme Royal Society Africa Awards. This capacity building programme provides support for UK-Ghana and UK-Tanzania research collaborations, to strengthen the research and training capacity at institutions in either African country. They offer support of up to £180,000 over three years for bi-lateral collaborations between researchers in the UK and Ghana or Tanzania. Funding will cover research costs, travel and subsistence, as well as procurement and maintenance of equipment and covers PhD scholarships for students based in those countries. The agreement for this award in its current form comes to an end following a final round of awards which will be made in 2014.

### Enhancing mobility

The Royal Society enables high-calibre UK scientists to initiate collaborations, exchange ideas, develop new skills and gain experience through working with the world's leading researchers.

40 Research Fellows were appointed to the Newton International Fellowship – to attract the very best early stage post-doctoral researchers from around the world to UK research institutions. This scheme, run in partnership with the British Academy, covers the broad range of natural and social sciences, engineering and the humanities.

231 awards were made during the year to the International Exchanges Scheme for scientists in the UK to undertake collaboration with scientists overseas through either a one-off visit or bi-lateral travel. These include awards made under cost-share agreements with organisations in Russia and China which enable a greater number of awards to be made.

17 awards were made to the International Scientific Seminar scheme, allowing Royal Society Research Fellows to organise a small two-day scientific seminar at the Kavli Royal Society Centre at Chicheley Hall.

19 jointly-funded awards were made to the India-UK Scientific Seminars, a scheme to fund the organisation of a small scientific meeting to bring together groups of early to mid-career scientists from India and the UK for the purpose of scientific discussion. The Society has negotiated the continuation of the International Networking Grants, established to help UK scientists develop partnerships and collaboration with overseas counterparts.

**Above**

Professor Martyn Poliakoff CBE FRS, Foreign Secretary of the Royal Society, with members of the Society's Newton International Fellowship.



## Education and public engagement

The Royal Society is committed to ensuring that everyone has the opportunity to appreciate the value of and engage with science, whether through top quality formal education or through other events and resources

# Education and public engagement

Over two million people watched each episode of *Science Britannica* on BBC 2, parts of which were filmed at the Royal Society and gave a glimpse into its unique archival collections. The programme looked back at the history of science in the UK including the birth of modern scientific publishing with the establishment of *Philosophical Transactions of the Royal Society*, the world's first scientific journal.

## Summer Science Exhibition

Over 12,500 people attended the Society's flagship public event in 2013, the Summer Science Exhibition, meeting the scientists behind 21 interactive cutting-edge science exhibits. Selected from 91 proposals by the Summer Science Exhibition Committee, the scientists displaying their work were joined this year by students from Boroughbridge High School showcasing their science project (funded by a Royal Society Partnership Grant), two exhibits from the Society's Centre for the History of Science and a pictorial exhibit celebrating Royal Society funded research.

*Twilight science*, debuting this year on the Monday evening to an audience of almost 1,000 people, was an extravaganza of science comedy, cocktails and a preview of the exhibits before the official opening on Tuesday 2 July.

Over 100,000 people visited the exhibition online, viewing videos, games and blogs about the exhibition and from the scientists themselves.

2,358 students visited the exhibition in 2013, an increase of almost 1,000 on the year before, achieved by opening to schools groups on Monday 1 July. Over three-quarters of pupils felt that they had a better understanding of how scientific research is relevant to their lives and had gained a better understanding of what scientists do as a result of attending.

## Public events

The Royal Society organised a series of public events including lectures, debates and panel discussions in London and at science festivals across the UK in Cheltenham, Manchester, Edinburgh and at the Hay Literature Festival.

The Society collaborated with several partner organisations in 2013 – three events were held with the Prince of Asturias Foundation for laureates of the Prince of Asturias Foundation Awards and Fellows of the Royal Society, including a gala reception with a performance by the English National Ballet co-ordinated by Tamara Rojo, Artistic Director of the English National Ballet.

The Society's public programme included an international element in 2013, with an event at the World Science Festival in New York. The Royal Society Winton Prize for Science Books hosted a panel of authors which included Lone Frank, James Gleick, Brian Greene and John Hockenberry.



## Left

Performance by the English National Ballet co-ordinated by Tamara Rojo, Artistic Director of the English National Ballet at the Prince of Asturias Foundation gala reception held at the Royal Society.

### Café scientifiques

The Royal Society held a series of café scientifique events, providing an informal forum for the discussion of scientific ideas, where the audience joins scientists and other specialists to explore current issues in science. The café programme showcases the work of Royal Society funded scientists and in 2013 topics ranged from antibiotics to clean energy and quantum information theory.

On 23 September 2013 the Royal Society hosted a café entitled *How are the giant planets protecting us?*, where 100 people joined Dr Christopher Arridge to discuss giant planets like Jupiter. Dr Arridge is a Royal Society University Research Fellow at the Mullard Space Science Laboratory, University College London.

### Book prizes

Science book prizes form an important part of the Society's public engagement programme and in 2013 the Royal Society Winton Prize for Science Books increased its award to £25,000 to recognise the important contribution of popular science writing.

169 books were submitted to the prize this year. Sean Carroll's *The Particle at the End of the Universe* was named as the winner of the 2013 prize at an event hosted by comedian and TV presenter Dara Ó Briain. A delighted Sean Carroll said: "I feel enormous gratitude towards the thousands of physicists at the Large Hadron Collider and the millions of people who express their love for science everyday!"

*Look Inside Space*, by Rob Lloyd Jones, won the 2013 Royal Society Young People's Book Prize, from 45 books submitted to the prize this year.



### Extraordinary achievement in popularising science

Frank Close OBE gave the Michael Faraday Lecture in January 2014 to a capacity audience of 450 people on the subject of *An Asymmetric Universe*, where he discussed the asymmetry in nature, and the role of its agent – the Higgs Boson – in creating a universe fit for life. The Society's Michael Faraday Prize and Lecture is awarded annually to a scientist or engineer whose expertise in communicating scientific ideas in lay terms is exemplary.

### Accessibility

With advance booking anyone can now request a British Sign Language (BSL) interpreter for any public event. Several events are now accompanied by an on screen speech-to-text transcription on the night and a written transcription is available alongside the video after the event.

**“It's an excellent, inspiring exhibition – the students are struggling to choose their favourite bit!”**

School visitor to the Summer Science Exhibition 2013.

**“Keep it up and running for many years to come so that future sixth formers can have the opportunity of attending this excellent event.”**

School visitor to the Summer Science Exhibition 2013.

**Above**  
The Royal Society Summer Science Exhibition 2013.

**“I have had the most amazing opportunity and I have seen some amazing things, like a double star and the landscape of the moon in the clearest of detail.”**

Imogen Warr, an A level science student from Chichester College, supported by a Royal Society Partnership Grant.



### Science in the media

In the autumn of 2013 the BBC aired a three-part celebration of British science fronted by former Royal Society University Research Fellow, Professor Brian Cox OBE. *Science Britannica*, which aired on BBC2 to an audience of over two million people per episode, looked back at the history of science in the UK including the birth of modern scientific publishing with the establishment of *Philosophical Transactions of the Royal Society*, the world's first scientific journal. Examining the scientific method, the programme looked at why it provides reliable knowledge and looked forward to the future of science in the UK. The Royal Society's media relations team worked closely with the BBC in the production of the series and the Society's President, Sir Paul Nurse, featured on a number of occasions.

### Public engagement: a new strategy

During the year, the Society established a new Public Engagement Committee under the Chair of Professor Russell Foster, FRS and the public engagement strategy was approved by Council in September 2013. It has four aims, which are to:

- promote science as a key element in the cultural and economic life of the nation
- ensure that evidence based policy topics are discussed with the public and integrated into the national framework
- support a forum to ensure that key areas of the public engagement strategy are coordinated across the nation
- ensure that science inspires the nation.

In March 2014 the Society carried out a survey among its Research Fellows to analyse how it can best support them in public engagement. The survey was designed to find out more about the kind of public engagement already carried out by the Research Fellow community and how the Society can help. The survey, completed by almost 200 Research Fellows, found that nearly 80% already do public engagement and 85% reported they would benefit from the Society's support in this area.

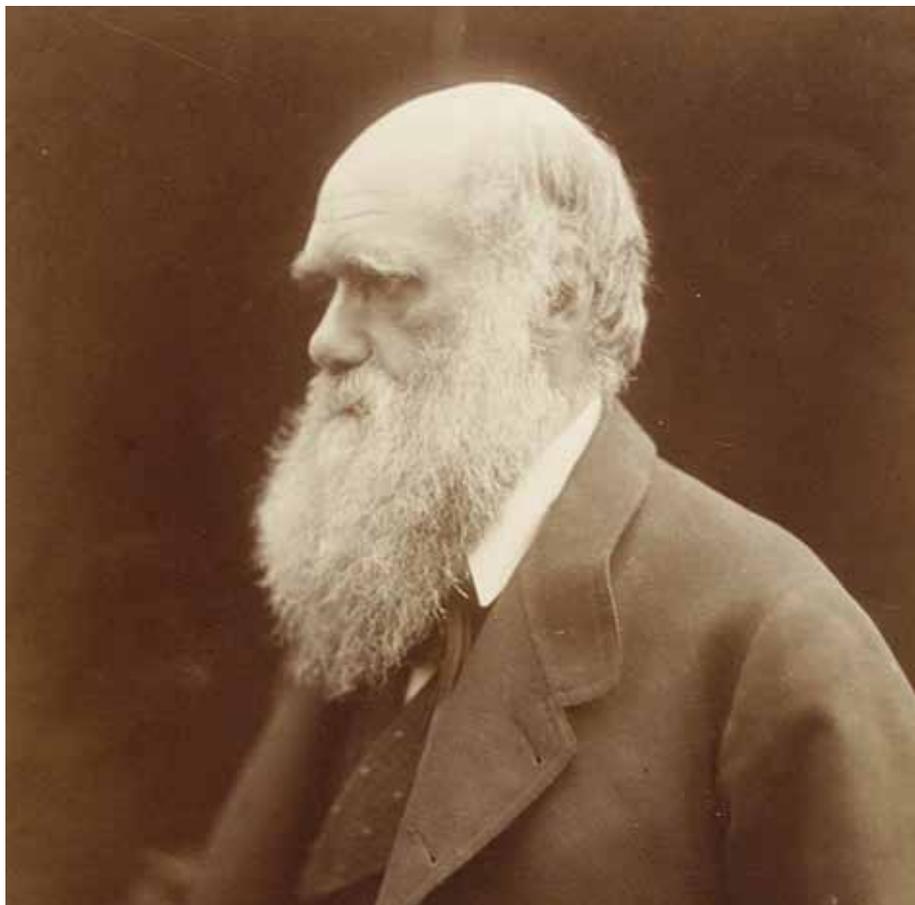
The Society is now looking at ways to take this forward in 2014, including providing a clearer invitation to new Research Fellows to take part in public engagement, the infrastructure for them to do so and opportunities provided by the Society's sister academies and other partners in science communication, as well as selected cultural institutions, for more public events.

Many of the contemporary science issues affecting society today are the subject of Royal Society policy reports. One of the aims of the public engagement strategy is to discuss more evidence-based policy topics with the public. This approach includes listening to what concerns people may have, involving relevant groups in developing policy work and sharing the evidence published in policy reports with more people. In February 2014 the Society's joint statement on climate science with the US National Academy of Sciences (NAS) answered the major questions on climate science and what scientists are doing to address remaining uncertainty (see page 41, 'Providing scientific advice for policy' for more information).

### Digital communications

The Royal Society's website and other digital communications are the principal means through which audiences around the world engage with the Society. The website received two million visits and five million page views and the Society has approximately 100,000 followers on Twitter and Facebook (gaining approximately 500 new followers per week). In late 2013 the Society launched a large-scale project to migrate the website to a new content management system, ahead of a planned redesign in 2014.

Under the hashtag '#NASRSclimate', the publication of the Society's joint statement on climate change with the NAS in February 2014 resulted in almost 1,000 tweets within seven days of the publication's launch, while on Facebook, two posts on the reference document reached over 20,000 people in a week. In total the joint report has reached 600,000 people via social media. The joint statement is covered on page 42 of this report.



Popular Facebook posts during the last six months include *Happy birthday Charles Darwin* in February 2014, featuring his 1868 portrait by Julia Margaret Cameron, which was his favourite. He inscribed beneath it: "I like this photograph very much better than any other which has been taken of me." The post was viewed by more than 54,000 people. *What might dark matter look like?* reached nearly 50,000 people in March 2014 via a Society post on Facebook, featuring a picture of the first 3D-map that shows the large-scale, web-like distribution of dark matter, an invisible form of matter that makes up most of universe, from a study led by Dr Richard Massey (Royal Society University Research Fellow).

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**The joint statement on climate change with the US National Academy of Sciences (NAS) in February 2014 reached 600,000 people via social media.**

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**Above**  
Charles Darwin's 'favourite portrait' by Julia Margaret Cameron (1868).

This photograph is held in the Society's collections.

## Education outreach

### Partnership Grants

The Royal Society, through its work with young people, schools and colleges, and teachers, aims to:

- inspire young people with the excitement and relevance of STEMM (science, technology, engineering, medicine and mathematics) to their lives, and encourage a greater appreciation of the role of critical thinking, experimentation and the scientific method in decision making
- encourage young people to study STEMM and related subjects at post-14, post-16 and beyond
- recognise and promote excellence in STEMM education.

The Partnership Grants scheme provides grants of up to £3,000 for science projects run at a primary or secondary school or college in partnership with a professional scientist or engineer. This year the Royal Society funded projects in areas of science including astronomy, particle physics, conservation, sports science and laser technology, awarding 39 grants to schools across the UK totalling £87,000.

### Associate Schools and Colleges

The Associate Schools and Colleges scheme is a UK network of teachers who share their experience and work with the Society to help promote excellence in science and mathematics teaching. In 2013/2014, the Associate Schools were able to participate in a variety of Society activities, including the Young People's Book Prize and Ask a Scientist competition (where members of the public can ask an exhibitor at the Summer Science Exhibition anything about their research).

The Society's work in education policy is covered on page 41 of this report, 'Providing scientific advice for policy'.



### Partnership Grants in action: Newton Ferrers

The students of Newton Ferrers Primary school have been working with Dr Richard Kirby, Research Fellow at Plymouth University's Marine Institute and until recently a Royal Society Research Fellow, to discover more about plankton. In a series of workshops with students, Dr Kirby demonstrated the appearance of different types of planktonic life in the sea as the seasons change, linking this to what the children could observe at home in their own garden ponds. Students Maya and Aiobh expressed the wonder of these discoveries through creative writing, describing one type of plankton as "glittering like fairground lights". For pupils Milly and Lizzie, they were like "aliens from Mars". The project was a great way to engage with "children's curiosity for a new subject", said teacher Justine Dixon.

## Partnership Grants in action: Chichester College

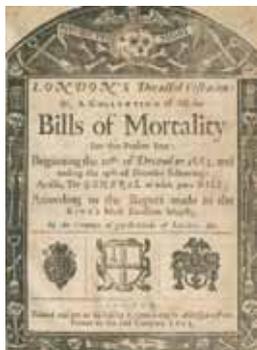
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“There is a bewildering amount of equipment available for astronomy”, reported Dr Mark Nason, Section Leader for Maths, Science and Social Science at Chichester College. So how do scientists choose? Dr Nason posed this question to his students in an astronomy project funded by the Partnership Grants scheme. Before they could begin their observation of the planets, A level science students and vocational science learners participating in Chichester College STEM club collaborated with professional scientists to find

a powerful telescope for the school to purchase. The new equipment enabled them to carry out a variety of projects including measuring the speed of light by observing Jupiter’s moons, astrophotography and the process of discovery of exoplanets. “I have had the most amazing opportunity and I have seen some amazing things, like a double star and the landscape of the moon in the clearest of detail”, said Imogen Warr, an A level science student participating in the project.



**Right**  
A Chichester College student with a new telescope purchased as part of the school's Partnership Grants project.



**Above**  
Bills of Mortality.

### Protecting and promoting the history of science

The Royal Society has one of the most important heritage collections in the world and uses the history of science to help people engage with science and to support academic research.

Major exhibitions at the Society during the year included the *Scientists* exhibition, launched in July 2013, promoting diversity within the scientific workforce. This was an exhibition of art curated by Professor Uta Frith FRS, showcasing recent portraits of the greatest female Fellows of the Royal Society together with newly commissioned drawings featuring Society Research Fellows and Rosalind Franklin prize-winners.

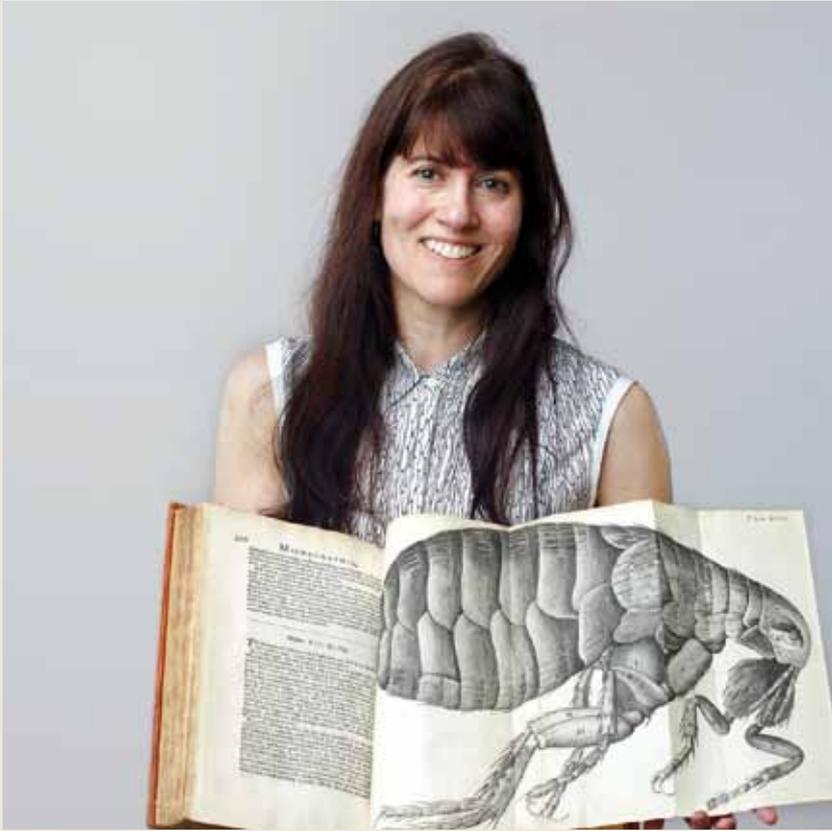
*Life beyond measure: a short history of longevity*, an exhibition launched in March 2014, explores the spread of the Black Death across England in the 1660s and the notices of the dead that began to be examined for scientific purposes. The Bills of Mortality were the beginning of official record-keeping on human death and the exhibition delves into four centuries of how scientists struggled to understand not only how long people live but why some live longer than others.

The Society's library links academic speakers to a public audience via its informal lunchtime lecture series, designed as a lively and informative way into a subject. Highlights during the year included *The popular reception of relativity in Britain* and *My sister Rosalind Franklin* in April 2013 and *Reinventing science publishing: The Philosophical Transactions of the Royal Society* in February 2014.



**Left**  
*Radium* (Marie and Pierre Curie), by Julius Mendes Price, 1904, shown as part of the *Scientists* exhibition.

This image is held in the Royal Society's collections.



Royal Society Council members with artefacts from the Royal Society's extensive collections.

**Left**

Professor Andrea Brand FRS with *Micrographia* by Robert Hooke FRS.

**Below left**

Professor Michael Cates FRS with *Principia* by Sir Issac Newton FRS.

**Below right**

Professor Carlos Frenk FRS with the telescope of Sir Isaac Newton FRS.





# Fundraising and development: support for the Royal Society

**Left**

Dara Ó Briain (right) with Sean Carroll (left), winner of 2013 Royal Society Winton Prize for Science Books. The Royal Society would like to thank Winton for their generosity in sponsoring the Royal Society Winton Prize for Science Books.

# Fundraising and development: support for the Royal Society

Throughout its long history the Royal Society has relied on the support of its Fellows and friends. In 2013/14 the Society was grateful for the ongoing support from trusts and foundations, companies, Fellows and their families in all its shapes and sizes, from regular gifts which help the Society to support the best scientists across the UK and Commonwealth, to larger gifts for capacity building in Africa. This year, thanks to this support, the Society has been able to work with more schools on science initiatives across the country and provide merit awards enabling UK universities to compete with overseas institutions.

## **Trust and Foundation support**

### **The Leverhulme Trust**

The Royal Society has worked in partnership with The Leverhulme Trust since 1960. In 2013/14 the partnership focussed on recognising and supporting outstanding science and fostering international cooperation. The Trust funded seven Leverhulme Trust Senior Research Fellowships scientists. The scheme is for scientists who would benefit from a period of full-time research without teaching and administrative duties.

The Trust supports the Royal Society-Leverhulme Africa Awards. The scheme is for scientists who want to develop a collaborative research project between the UK and research institutions in either Ghana or Tanzania. See page 47 of this report for more information, under 'Fostering international and global cooperation'.

### **The Wolfson Foundation**

The Wolfson Foundation is the Society's most generous donor, and in 2013 the Society celebrated the 50th anniversary of its first joint project with the Foundation. The total support received from the Wolfson Foundation is in excess of £50 million, predominantly focused around two main schemes: the Royal Society Wolfson Laboratory Refurbishment Scheme which provides grants for the renovation and modernisation of university laboratories; and the Royal Society Wolfson Research Merit Awards which provide funding to researchers of outstanding achievement and potential. In 2013/14 the Foundation gave £1.2 million to support more than 200 outstanding scientists across the UK. See page 31 of this report for more information, 'Supporting outstanding science'.

### **The Radcliffe Trust**

In August 2013, the Society received two grants totalling £45,500 from The Radcliffe Trust to support the Society's Partnership Grants scheme (see page 55 for further examples of the scheme, under 'Education and public engagement'). The grants will support ten school/scientist partnerships under the scheme and were made as part of the Trust's Tercentenary project. They continue a long history of collaboration between the Society and the Trust that began more than 200 years ago.

## Corporate support

### BP

For the last 60 years the Society has worked in partnership with BP to support outstanding science. Most recently this has included support for the Society's Dorothy Hodgkin Fellowship scheme, funding eight Fellows, and the Industry Fellowship scheme. In 2013 BP provided £146,000 to support three Industry Fellows.

Dr Bob Sorrell, Vice President of Public Partnerships at BP said, "BP has had a long term relationship with the Royal Society and we have valued working together to support career development of scientists in the UK through the various Royal Society programmes and initiatives."

## Support from Fellows

### Professor Howard Morris FRS

The Society continues to receive gifts from a number of Fellows and Foreign Members. Last year Professor Howard Morris FRS, a long time supporter of the Society, made a further donation towards the Royal Society Enterprise Fund. Professor Morris' donation of £20,000, along with other donations, took the overall sum raised for the Enterprise Fund since its inception in 2008 to over £7 million.

### Sir Ralph Kohn FRS

In November the Society was delighted to welcome the world-renowned pianist Sir András Schiff to Carlton House Terrace where he enthralled an invited audience with a performance of Bach's Goldberg Variations. The recital, which was the inspiration of Sir Ralph Kohn FRS, brought together friends and supporters of the Society to thank them for their continued support. The recital and following reception which connected the worlds of science and music was attended by over 150 guests. The dinner, which was generously supported by Sir Ralph, was attended by members of the President's Circle, recognising supporters who have given over £100,000 to the Society.

## International Support

### American Friends of the Royal Society

As part of the Society's aim to foster international cooperation, the Society's Treasurer Professor Anthony Cheetham FRS, Executive Director Dr Julie Maxton and Head of International Policy, Tracey Elliot, undertook a five day tour of American cities in November to re-engage with US-based Fellows, Foreign Members and donors through a series of events in Berkeley, Boston, Philadelphia, Pasadena and Stanford. As a result the American Friends of the Royal Society have received an increase in donations and the Society looks forward to rekindling friendships and joint projects with many friends in the US.

### Thank you

The Royal Society is truly grateful for the exceptional support of our donors over the last financial year. Their generosity has enabled us to promote excellence in science and expand frontiers of knowledge across the world. The support of those listed below, as well as those who have chosen to remain anonymous, is deeply appreciated.

### President's Circle Members

We would particularly like to thank members of our President's Circle for their generous gifts in 2013/14.

EP Abraham Cephalosporin Fund  
 BP plc  
 The Daiwa Anglo-Japanese Foundation  
 ERA Foundation  
 The Gatsby Charitable Foundation  
 Hauser-Raspe Foundation  
 The Kavli Foundation  
 The Kohn Foundation  
 The Leverhulme Trust  
 Professor Howard Morris FRS  
 The Ogden Trust  
 L'Oréal (UK) Limited  
 Pfizer Inc  
 Rolls-Royce Group plc  
 The Sino-British Fellowship Trust  
 Wellcome Trust  
 Winton Capital Management  
 The Wolfson Foundation  
 K.C. Wong Education Foundation  
 The Worshipful Company of Actuaries

### Individuals

Sir Geoffrey Allen FREng FRS  
 Professor Anthony Hunter FRS  
 Professor Thomas Kailath ForMemRS  
 Sir Ravinder Maini FMedSci FRS  
 Mrs Tracey Olsen  
 Professor Angela Vincent FMedSci FRS  
 Dr Ian Young OBE FREng FRS

### Companies

4 New Square  
 CBMM  
 Covington and Burling LLP  
 GlaxoSmithKline  
 Rolex SA  
 SABMiller Plc  
 Siemens Plc  
 techUK

### Trusts and Foundations

The Grantham Foundation for the Protection of the Environment  
 Society of Chemical Industry  
 The Lord Leonard and Lady Estelle Wolfson Foundation  
 The Queen Elizabeth Diamond Jubilee Trust  
 The Radcliffe Trust  
 Royal Statistical Society  
 The Tomorrow Project

### Legacies

The Society is grateful for the following bequests and for donations received in memory of others.

Dr Sydney Andrew FREng FRS  
 Dr Brigitte Askonas FMedSci FRS  
 Mr Goran Billing  
 Mr Felton Downes  
 Professor Noreen Murray CBE FRS

# Financial review

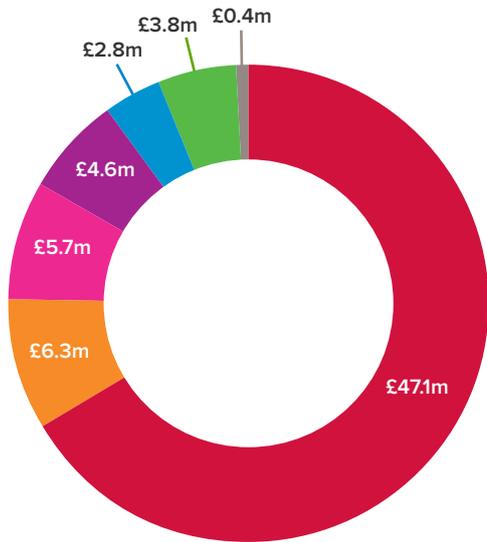
## Financial review

The Royal Society's total funds have increased in the year by £16.2m from £237.5m to £253.7m. Total income of £70.6m is in line with 2013 and expenditure of £70.1m has increased by £1.9m after taking out an exceptional impairment of £12.2m to the carrying value of Chicheley Hall, giving an operating surplus of £0.5m before gains, losses and revaluations.

The Society's investment portfolio has continued to perform well with an unrealised gain of £8.6m. Total investments at the balance sheet date were valued at £197m. The defined benefit pension scheme as valued by Barnet Waddingham in line with FRS17 has also made a gain during the financial year of £5.7m reducing the pension scheme liability on the balance sheet from £11.9m to £7.1m. The pension scheme has been reviewed and staff consultation is currently underway, the proposed changes are expected to further reduce this liability.

The Society's income of £70.6m is made up predominantly of grant income which supports 80% of the Society's charitable expenditure. Trading activities performed well during the year with Publishing income growing by £0.5m to £5.7m and Conferencing income by £0.5m to £3.8m. Gifts, donations and legacies fell by £0.9m to £2.8m as the Society did not run any major appeals during the year. The Society is planning to reinvigorate the fundraising function in the coming financial year. Investment income increased by £0.3m to £4.6m.

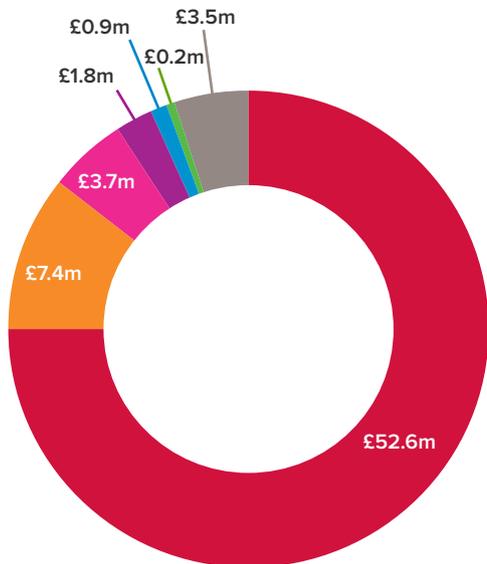
**TOTAL INCOME**



**Total Income £70.6m**  
(2013: £70.6m)

- BIS grant
- Grant income
- Publishing income
- Investment income
- Donation income
- Conferencing income
- Other income

**TOTAL EXPENDITURE**



**Expenditure £70.1m**  
(2013: £68.2m, excluding impairment)

- Supporting outstanding science
- Fostering international cooperation
- Education and public engagement
- Providing scientific advice
- Promoting science
- Recognising excellence in science
- Other

**Supporting outstanding science £52.6m**  
(2013: £52.9m)

41 new Research Fellows were appointed to the Society's University Research Fellowship scheme in 2013 – they join a total of 283 scientists currently supported under the scheme which provides up to eight years' support to outstanding scientists with the potential to become leaders in their field.

The Royal Society Dorothy Hodgkin Fellowship scheme provides up to five years' support and offers a recognised first step into an independent research career for excellent scientists for whom career flexibility is essential. Dr Rosalind Coggon, Dorothy Hodgkin Fellow, University of Southampton says: "My Dorothy Hodgkin Fellowship has given me the invaluable freedom and flexibility to develop an exciting scientific research career whilst caring for my young family, making it possible for me to pursue both my dream jobs. The support, encouragement, and opportunities provided by the Royal Society are fantastic."

**Fostering international cooperation £7.4m**  
(2013: £6.9m)

The Royal Society continues to demonstrate international leadership in science and science policy, through its membership of multilateral organisations, its central role in their governance and its participation in international meetings. Under the UK's G8 Presidency, the Society hosted a unique meeting of G8 Science Ministers and Academy Presidents, chaired jointly by the Society's President, Sir Paul Nurse and the Universities and Science Minister, David Willetts MP.

An illustration of science diplomacy in action, in 2013 the Society facilitated an unprecedented collaboration between North Korean scientists and partners from the UK, US and China. Underpinned by a Memorandum of Understanding and research agreements between participating institutions, the partnership focuses on seismological monitoring of the volcano Mount Paektu in North Korea. In another complex, multi-partner project, the Jordan report of the *Atlas of Islamic World Science and Innovation* project was launched in Amman.

**Education and public engagement £3.7m**  
(2013: £3.8m)

Over 12,500 people attended the Society's flagship public event in 2013, the Summer Science Exhibition, meeting the scientists behind 21 interactive cutting-edge science exhibits. Over 100,000 people visited the exhibition online, viewing videos, games and blogs about the exhibition and from the scientists themselves. 2,358 students visited the exhibition in 2013, an increase of almost 1,000 on the year before and over three-quarters of pupils felt that they had a better understanding of how scientific research is relevant to their lives and had gained a better understanding of what scientists do as a result of attending.

### Providing scientific advice for policy £1.8m (2013: £1.5m)

Climate science work has been an area of particular focus this year. The US National Academy of Sciences (NAS) and Royal Society joint statement on climate science, answering the major questions on climate science and what scientists are doing to address remaining uncertainty, was published in February 2014. The publication of the statement reinforces the Society's work on climate science since the launch of the Intergovernmental Panel on Climate Change (IPCC) report in September 2013, including a scientific discussion meeting *Next steps in climate science*, organised by Brian Hoskins FRS.

In addition to the launch of major policy studies, the Society has hosted events making best use of its convening power to bring together experts and other interested parties on topics as diverse as research misconduct, disaster risk reduction, post-2015 development goals, carbon capture and storage, and food production.

### Promoting science £0.9m (2013: £0.5m)

Frank Close OBE gave the Michael Faraday Lecture in January 2014 to a capacity audience of 450 people on the subject of *An Asymmetric Universe*, where he discussed the asymmetry in nature, and the role of its agent – the Higgs Boson – in creating a universe fit for life.

### Recognising excellence in science £0.2m (2013: £0.2m)

19 medals were awarded by the Society in 2013 to recognise excellence in science. Professor Sir Andre Geim FRS received the Copley medal – believed to be the world's oldest scientific prize – for his numerous scientific contributions and in particular his work on graphene.

The Royal Society Pfizer Award is made to scientists working in the biological sciences to promote capacity building in Africa. Dr Abdoulaye Diabate was awarded the 2013 Royal Society Pfizer Award for his work on new tools to target mosquito swarms responsible for the spread of malaria.

### Grants

Grant expenditure of £48.4m was in line with 2013.

The grants made by the Society fall into two broad classes: (1) Fellowships and (2) research grants. They can be further classified into: (1) early-career Fellowships, Professorships and Senior Fellowships, and support for innovation and (2) research grants, collaboration and travel grants, capacity-building grants, and education-related grants. Grants applications are assessed by means of a peer-review process and consideration by a panel of experts comprising Fellows of the Royal Society and other senior scientists.

Each panel is chaired by a Fellow of the Society. Further information is available at [royalsociety.org/grants/applications](http://royalsociety.org/grants/applications).

The primary purposes of the Society's grant-giving activities are to support the work of outstanding individual scientists at various stages of their careers, primarily in the UK, and to encourage collaborations between UK scientists and scientists throughout the world. On 31 March 2014 the Society was providing support for 1270 individuals, including 744 Fellowship holders and 526 award holders across the Society's other grants schemes.

More detailed information on all the Society's grants schemes is given under 'supporting outstanding science' on page 31.

### Chicheley Hall

(also known as the Kavli Royal Society Centre)

Prior to 1 April 2013, the operating results of Chicheley Hall were held partly in the Society and partly in the subsidiary Royal Society Trading Limited. Since that date, the results have resided solely in the subsidiary, following a strategic review of the Hall. DeVere Venues have been managing Chicheley Hall since February 2013 on a ten year contract. The initial aim is to achieve break even at the end of year 3 of the contract. In 2013/14 total income was £1.3m (2013: £1.0m) with expenditure at £1.7m (2013: £1.4m). The loss of £0.4m was commensurate with the previous year but included pre-opening costs for DVV of £0.1m bringing trading loss to £0.3m.

### Enterprise Fund

The Enterprise Fund is a restricted fund of the Society. The Royal Society Enterprise Fund Limited is a subsidiary company whose purpose is to advise the Society on investments that it might make via the Fund. Following a strategic review of the Fund a decision was made to enter negotiations with Amadeus Capital Partners (ACP) with a view to investing the Fund in the Amadeus IV Early Stage fund. The aspirations of the Amadeus fund closely match the objectives of the Enterprise Fund. Therefore it is hoped that, by co-investing with a significantly larger fund, there is the opportunity to further enhance the impact that the Fund has achieved to date in supporting the translation of scientific discovery into commercial application. As a result of this decision the two internal employees involved in managing the Fund left the Royal Society during the year. The Royal Society has not as yet reached final agreement with ACP.

### Reserves Policy

The Society holds free reserves so that it can respond to unforeseen charitable opportunities and continue to honour existing commitments in the event of a shortfall of income. The Society's policy is to review its income streams and expenditure commitments on an annual basis, assess the main financial risks faced by the Society and their associated likelihood in order to develop a risk based reserves level. The Society has calculated a target free reserves level of £9.3m.

Freely available reserves are calculated by taking total unrestricted funds and deducting unrestricted tangible fixed assets and the heritage assets. At the balance sheet date the value of the Society's free reserves was £22.5m, which was above the target level. The Society is currently looking at a long term strategy to increase its charitable activities in a sustainable way in order to reduce the reserves level in line with the target. Immediate priorities include to extend the reach, impact, and influence of the Society nationally, internationally, and globally; to run a vibrant programme of public engagement and to galvanise the business, government, public, and academic sectors to bring about a step-change in support for science in the UK.

### Investment policy

The Society's investment policy is to hold assets to maximise overall return with an appropriate level of risk, when considered alongside the Society's strategic plan and its level of reserves. The Society maintains an investment portfolio in order to: provide long-term growth in the Society's endowment in excess of underlying inflation; provide a source of cash to support the Society's operations to an appropriate sustainable level; and provide a source of liquidity to the Society. The Society makes investment decisions under the advice of the Investment Advisory Committee, chaired by the Treasurer, whose members have investment or commercial background and experience.

The Society expects a balance between capital growth and income to further its charitable work. It seeks to grow the basic value of its investments in real terms, both in dividends and in capital. The Society also holds expendable funds within the portfolio, all of which will be expended over time, and other permanently endowed funds.

The Society expects investments in the portfolio normally to comprise leading UK and international companies, Unit and Investment Trusts including those investing in major international markets, fixed interest, venture capital, hedge funds, private equity funds, and property funds. A broad asset allocation of 80% equities, 20% fixed interest is a default position with variation as advised and monitored by the Investment Advisory Committee. Investment managers have a general discretion over asset allocation and selection. The Society is an ethical investor and judges its investments appropriately. Such judgements will be consistent with the Trustees' powers and fiduciary responsibilities and with the Society's charitable objects. The Society's Enterprise Fund invests directly in innovative early-stage businesses emerging from the science base in the UK and elsewhere.

# Governance

## **The Society's Royal Charters**

The Society, a registered charity, was founded in 1660 and incorporated by Royal Charters. The Charters 'encourage philosophical studies, especially those which by actual experiments attempt either to shape out a new philosophy or to perfect the old ... [and] studies [that] are to be applied to further promoting by the authority of experiments the sciences of natural things and of useful arts, to the glory of God the Creator, and the advantage of the human race.'

## **The Society's Council**

The governing body of the Society is its Council. Members of Council are elected by and from the Fellowship. There may be between 20 and 24 members. Council is chaired by the President of the Society, and among its members are four Vice-Presidents: the Treasurer, the Physical Secretary, the Biological Secretary, and the Foreign Secretary. The President and the Vice-Presidents are not remunerated for holding these offices. They serve five-year terms and the other members of Council serve three-year terms.

The Society is a registered charity and the members of Council are its trustees. Under the Charters, Council 'shall and may have full authority, power, and faculty from time to time to draw up, constitute, ordain, make, and establish such laws, statutes, acts, ordinances, and constitutions as shall seem to them, or to the major part of them, to be good, wholesome, useful, honourable, and necessary, according to their sound discretions, for the better government, regulation, and direction of the Royal Society aforesaid, and of every Member of the same, and to do and perform all things belonging to the government, matters, goods, faculties, rents, lands, tenements, hereditaments, and affairs of the Royal Society aforesaid.'

In the year, changes in the membership of Council took place as usual on Anniversary Day, which is 30 November. New members of Council attended a bespoke induction session at which the Internal Audit Engagement Partner and a solicitor who specialises in charity law gave presentations on trustee duties in general and on membership of Council in particular. Relevant training was provided to trustees during the year in the context of their consideration of specific matters. Council has had regard to the guidance on public benefit published by the Charity Commission when reviewing the Society's activities.

**Statement of trustees' responsibilities**

The trustees (who are the members of Council) are responsible for preparing the Trustees' Annual Report and the Financial Statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Charity law requires Council to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the group and the parent charity and of the incoming resources and application of resources of the group for the year. In preparing those financial statements the trustees are required to:

- select suitable accounting policies and then apply them consistently
- observe the methods and principles in the Charities SORP
- make judgements and accounting estimates that are reasonable and prudent
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charity will continue in business.

Council is responsible for keeping accounting records that are sufficient to show and explain the charity's transactions and disclose with reasonable accuracy at any time the financial position of the group and parent charity and enable them to ensure that the financial statements comply with the Charities Act 2011 and regulations made thereunder. Council is also responsible for safeguarding the assets of the group and the parent charity, and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Council is responsible for the maintenance and integrity of the financial information included on the charity's website. Legislation in the United Kingdom governing the preparation and dissemination of the financial statements and other information included in annual reports may differ from legislation in other jurisdictions.

### Committees of Council

The Society has a system of committees that includes the following.

- Audit Committee examines the Society's arrangements for governance, risk management, internal control, and value for money, and advises Council on the adequacy and effectiveness of those arrangements. The Committee comprises both Fellows and non-Fellows.
- The Board comprises the President and the Vice-Presidents. Its duties include guiding and overseeing implementation of Council decisions, considering matters that require urgent attention between Council meetings or that do not fall within the remit of any other committee, and providing advice and guidance to the Executive Director.
- Education Committee advises Council on the Society's education programme.
- Finance Committee advises Council on financial matters generally. Its remit includes financial strategy, revenue and capital budgets and performance against them, advice to Investment Committee on cash-flow needs, advice to Council on remuneration policy, and oversight of financial aspects of the Society's trading operations and associated subsidiary undertakings.
- Investment Committee advises Council on investment policy and investment objectives, determines investment strategy, takes certain decisions in consultation with the Society's investment managers, and determines benchmarks and reviews performance against them.
- Nominations Committee advises Council on the strongest candidates for election as Vice-Presidents and as members of Council and for appointment as chairs of Sectional Committees and other committees.
- Public Engagement Committee advises Council on the Society's strategy and activities concerned the public engagement with science.
- Science, Industry, and Translation Committee advises Council on the Society's strategy in respect of science, industry, and translation, determines the programme of activity to be undertaken in that area, and oversees the execution of that programme.
- Science Policy Advisory Group advises Council on the work programme of the Science Policy Centre.
- The Sectional Committees, of which there are ten spanning the scientific disciplines, select short lists of candidates for consideration by Council for election to the Fellowship.

### **Risk management**

Council is responsible for ensuring that proper arrangements are in place for risk management. Council relies principally on Audit Committee, supported by the Internal Auditors, to assess those arrangements and to advise it accordingly. During the year, Audit Committee received and considered regular reports on risk management systems and management of major risks. Council received regular reports from Audit Committee and reviewed management of major risks using its own risk register. The risk registers of the Society's sections were also updated and used to monitor management of risks. Work continued to embed a strengthened culture of risk management throughout the Society.

Work during the year to address major risks included: close engagement with De Vere Venues, whom the Society contracted to manage Chicheley Hall; detailed work towards sustainable arrangements for the Enterprise Fund; the closure to new members of the defined benefit Pension and Life Assurance Plan of the Royal Society and development of proposals for changes to the Plan for existing members, in order to manage financial risk to the Society; initiation of a major programme of activities to help the Society determine future plans for its journal publishing business in light of major developments in publishing generally; further strengthening of the Society's organisational capacity, including senior-level appointments of a Chief Strategy Officer, a Director of Development, a Head of Education Policy, and a Head of IT; improvements to the organisational structure and attention to management accountability; a major programme of activities to improve HR policies and procedures and to provide appropriate guidance and training for members of staff; and a major programme of investment in IT infrastructure and systems.

*Paul Nurse*

Paul Nurse  
President of the Royal Society

# Independent auditors report to the Trustees of the Royal Society

We have audited the financial statements of The Royal Society of London for Improving Natural Knowledge, commonly known as the Royal Society, for the year ended 31 March 2014 which comprise the Consolidated Statement of Financial Activities, the Consolidated and Charity Balance Sheets, the Consolidated Cash Flow Statement, the Accounting Policies and the related notes 1 to 24. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

This report is made solely to the charity's trustees, as a body, in accordance with section 144 of the Charities Act 2011 and regulations made under section 154 of that Act. Our audit work has been undertaken so that we might state to the charity's trustees those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity and the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

## **Respective responsibilities of trustees and auditor**

As explained more fully in the Trustees' Responsibilities Statement, the trustees are responsible for the preparation of the financial statements which give a true and fair view.

We have been appointed as auditor under section 144 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that Act. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

**Scope of the audit of the financial statements**

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the group's and the parent charity's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the trustees; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the annual report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

**Opinion on financial statements**

In our opinion the financial statements:

- give a true and fair view of the state of the group's and the parent charity's affairs as at 31 March 2014, and of the group's incoming resources and application of resources, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011.

**Opinion on other matter as required by BIS grant letter**

In our opinion, in all material aspects, the grant payments received from the Department for Business, Innovation and Skills (BIS) has been applied for the purposes set out in the Grant Letter and in accordance with the terms and conditions of the grant.

**Matters on which we are required to report by exception**

We have nothing to report in respect of the following matters where the Charities Act 2011 requires us to report to you if, in our opinion:

- the information given in the Trustees' Annual Report is inconsistent in any material respect with the financial statements; or
- sufficient accounting records have not been kept by the parent charity; or
- the parent charity financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

**Deloitte LLP**

Chartered Accountants and Statutory Auditor  
Reading  
Dated 2 July 2014

Deloitte LLP is eligible to act as an auditor in terms of section 1212 of the Companies Act 2006 and consequently to act as the auditor of a registered charity.

# Consolidated statement of financial activities

For the year ended 31 March 2014

	Notes	Unrestricted Funds £'000	Restricted Funds £'000	Expendable Endowment Funds £'000	Permanent Endowment Funds £'000	2014 Total Funds £'000	2013 Total Funds £'000
<b>Incoming resources</b>							
<b>Incoming resources from generated funds</b>							
Voluntary income	1	317	499	2,000	–	2,816	3,682
Investment income	2	1,250	3,302	–	–	4,552	4,218
Trading through subsidiary	3	910	–	–	–	910	641
		<b>2,477</b>	<b>3,801</b>	<b>2,000</b>	<b>–</b>	<b>8,278</b>	<b>8,541</b>
<b>Incoming resources from charitable activities</b>							
Grants for charitable activities	4	1,029	52,327	–	–	53,356	53,433
Trading in furtherance of charitable objectives	3	8,562	329	–	–	8,891	8,608
		<b>9,591</b>	<b>52,656</b>	<b>–</b>	<b>–</b>	<b>62,247</b>	<b>62,041</b>
Other income	5	47	–	–	–	52	44
<b>Total incoming resources</b>		<b>12,073</b>	<b>56,504</b>	<b>2,000</b>	<b>–</b>	<b>70,577</b>	<b>70,626</b>
<b>Resources expended</b>							
<b>Costs of generating funds</b>							
Costs of generating voluntary income		324	–	–	–	324	348
Investment management costs	16	104	107	63	227	501	446
Trading through Subsidiary	3	1,743	–	–	–	1,743	561
<b>Total costs of generating funds</b>		<b>2,171</b>	<b>107</b>	<b>63</b>	<b>227</b>	<b>2,568</b>	<b>1,355</b>
<b>Charitable activities</b>							
Promoting science and its benefits		438	454	–	–	892	457
Recognising excellence in science		145	21	–	–	166	203
Supporting outstanding science		7,571	45,004	–	–	52,575	52,886
Providing scientific advice for policy		906	889	–	–	1,795	1,480
Fostering international and global cooperation		409	6,974	–	–	7,383	6,880
Education and public engagement		1,638	2,110	–	–	3,748	3,780
Write down of fixed asset	13	–	–	–	–	–	12,205
<b>Total for cost of charitable activities</b>	<b>5</b>	<b>11,107</b>	<b>55,452</b>	<b>–</b>	<b>–</b>	<b>66,559</b>	<b>77,891</b>

	Notes	Unrestricted Funds £'000	Restricted Funds £'000	Expendable Endowment Funds £'000	Permanent Endowment Funds £'000	2014 Total Funds £'000	2013 Total Funds £'000
Governance costs	8	958	1	–	–	959	1,114
<b>Total resources expended</b>		<b>14,236</b>	<b>55,560</b>	<b>63</b>	<b>227</b>	<b>70,086</b>	<b>80,360</b>
<b>Net (outgoing) / incoming resources before transfers</b>		<b>(2,163)</b>	<b>944</b>	<b>1,937</b>	<b>(227)</b>	<b>491</b>	<b>(9,734)</b>
Gross transfers between funds	20	3,083	(3,083)	–	–	–	–
<b>Net incoming / (outgoing) resources before other recognised gains and losses</b>		<b>920</b>	<b>(2,139)</b>	<b>1,937</b>	<b>(227)</b>	<b>491</b>	<b>(9,734)</b>
Net gains on investments	16	1,868	1,913	1,146	3,629	8,556	22,539
Actuarial gains / (losses) on defined benefit pension scheme	22	5,747	–	–	–	5,747	(4,412)
Other gains / (losses) on heritage assets revaluation	15	1,449	–	–	–	1,449	–
<b>Net movement in funds</b>		<b>9,984</b>	<b>(226)</b>	<b>3,083</b>	<b>3,402</b>	<b>16,243</b>	<b>8,393</b>
<b>Total funds brought forward</b>		<b>76,813</b>	<b>40,321</b>	<b>25,584</b>	<b>94,766</b>	<b>237,484</b>	<b>229,091</b>
<b>Total funds carried forward</b>		<b>86,797</b>	<b>40,095</b>	<b>28,667</b>	<b>98,168</b>	<b>253,727</b>	<b>237,484</b>

All of the above results are derived from continuing activities. There are no other gains or losses other than those stated above.

A Statement of Total Recognised Gains and Losses is not required as all gains and losses are included in the Statement of Financial Activities.

Incoming resources of the Charity during the year were £68,837,000 (2013: £70,065,000) less resources expended by the Charity at £68,346,000 (2013: £79,801,000) led to a surplus of £491,000 (2013: £9,736,000). All incoming resources, resources expended and resulting net movements in funds are derived from continuing activities.

The notes that follow form part of the financial statements.

# Consolidated balance sheet

As at 31 March 2014

	Notes	Group 2014 £'000	Group 2013 £'000	Charity 2014 £'000	Charity 2013 £'000
<b>Fixed Assets</b>					
Tangible assets	13	15,562	15,728	15,562	15,719
Heritage assets	15	48,720	47,250	48,720	47,250
Investments	16	196,835	185,996	196,835	185,996
		<b>261,117</b>	<b>248,974</b>	<b>261,117</b>	<b>248,965</b>
<b>Current Assets</b>					
Stock		42	31	23	26
Debtors receivable within one year	17	7,038	5,586	7,018	5,929
Debtors receivable after one year	17	1,500	2,000	1,500	2,000
Cash at bank and in hand		1,611	4,655	1,250	4,172
		<b>10,191</b>	<b>12,272</b>	<b>9,791</b>	<b>12,127</b>
Creditors: amount due in one year	18	(10,396)	(11,714)	(9,588)	(11,561)
<b>Net Current (Liabilities) / Assets</b>		<b>(205)</b>	<b>558</b>	<b>203</b>	<b>566</b>
<b>Total assets less current liabilities</b>		<b>260,912</b>	<b>249,532</b>	<b>261,320</b>	<b>249,531</b>
Creditors: amount due after one year	18	(77)	(129)	(77)	(129)
<b>Net Assets before Pension Scheme liability</b>		<b>260,835</b>	<b>249,403</b>	<b>261,243</b>	<b>249,402</b>
Defined benefit pension scheme: liability	22	(7,108)	(11,919)	(7,108)	(11,919)
<b>Total Net Assets</b>		<b>253,727</b>	<b>237,484</b>	<b>254,135</b>	<b>237,483</b>
Permanent endowment funds	20	98,168	94,766	98,168	94,766
Expendable endowment funds	20	28,667	25,584	28,667	25,584
Restricted funds	20	40,095	40,321	40,095	40,321
<b>Unrestricted Funds</b>					
Revaluation reserve	20	47,485	46,036	47,485	46,036
Defined benefit pension reserve	20	(7,108)	(11,919)	(7,108)	(11,919)
Unrestricted income funds	20	46,420	42,696	46,828	42,695
		<b>253,727</b>	<b>237,484</b>	<b>254,135</b>	<b>237,483</b>

The financial statements were approved and authorised for issue by Council and signed on its behalf on 2nd July 2014



**Professor Anthony Cheetham**  
Treasurer

# Consolidated cash flow statement

For the year ended 31 March 2014

Reconciliation of net incoming resources to net cash outflow from operating activities			
	Notes	2014 £'000	2013 £'000
Net incoming / (outgoing) resources before other recognised gains and losses		491	(9,734)
Investment income	2	(4,552)	(4,218)
Depreciation charges	13	1,355	13,667
Investment management fees charged to portfolio	16	501	446
(Increase) / Decrease in stocks		(11)	4
(Increase) / Decrease in debtors		(952)	351
Decrease in creditors		(1,370)	(1,656)
Recognition of Wolfson assets	1	–	(1,054)
Donated heritage assets	15	–	(30)
Difference between pension charge and cash contributions	22	936	384
<b>Net cash outflow from operating activities</b>		<b>(3,602)</b>	<b>(1,840)</b>

Cash flow statement			
	Notes	2014 £'000	2013 £'000
Net cash outflow from operating activities		<b>(3,602)</b>	<b>(1,840)</b>
<b>Returns on investments and servicing of finance</b>			
Investment income	2	4,552	4,218
<b>Net cash inflow from returns on investments and servicing of finance</b>		<b>4,552</b>	<b>4,218</b>
<b>Capital expenditure and financial investment</b>			
Net purchase of tangible fixed assets	13	(1,189)	(209)
Purchase of heritage assets	15	(21)	(1)
Purchase of investments	16	(20,680)	(11,712)
Proceeds from sale of investments	16	17,896	8,497
Net increase in endowment investments	20	(1,710)	(743)
<b>Net cash outflow from capital expenditure and financial investment</b>		<b>(5,704)</b>	<b>(4,168)</b>
<b>Net cash outflow before management of liquid resources and financing</b>		<b>(4,754)</b>	<b>(1,790)</b>
<b>Financing</b>			
Net increase in endowment investments	20	1,710	743
<b>Net cash inflow from financing activities</b>		<b>1,710</b>	<b>743</b>
<b>Decrease in cash</b>		<b>(3,044)</b>	<b>(1,047)</b>
Cash at 1 April		4,655	5,702
Cash at 31 March		1,611	4,655

Analysis of change in net funds					
	As at 31 March 2014 £'000	Cash flow £'000	As at 31 March 2013 £'000	Cash flow £'000	As at 31 March 2012 £'000
Cash in hand and at bank	1,611	(3,044)	4,655	(1,047)	5,702
<b>Total cash</b>	<b>1,611</b>	<b>(3,044)</b>	<b>4,655</b>	<b>(1,047)</b>	<b>5,702</b>
<b>Total change in net funds</b>	<b>1,611</b>	<b>(3,044)</b>	<b>4,655</b>	<b>(1,047)</b>	<b>5,702</b>

# Accounting policies

The principal accounting policies adopted in the preparation of these Financial Statements are as follows:

## **Basis of preparation**

The Financial Statements have been prepared under the historical cost convention, with the exception that certain investments are valued at mid-market prices as at the Balance Sheet date and heritage assets are valued in accordance with the heritage assets policy. They are also prepared in accordance with applicable accounting and financial reporting standards in the United Kingdom, the requirements of the Charities Act 2011 and the Statement of Recommended Practice – Accounting and Reporting by Charities (revised 2005) ('the SORP'). The financial statements are prepared on a going concern basis. The Trustees have reviewed reserve levels, budgets and cash flow forecasts for the next 12 months and believe the going concern basis to be appropriate.

## **Group Financial Statements**

The Society has three wholly owned subsidiary companies: The Royal Society Enterprise Fund Limited, Royal Society Trading Limited and Royal Society (London) Limited. The Society also owns the share capital of The Royal Society (Australia) Pty Limited which is the trustee of the Royal Society Theo Murphy (Australia) Fund.

The results of each of these subsidiary undertakings (see Note 23) have been incorporated into these consolidated Financial Statements under the heading 'Group' on a line-by-line basis, adopting uniform accounting policies. Their objectives contribute to those of the Royal Society Group strategy, and under the tests of control they are deemed to be wholly-owned subsidiaries of the Society. The Royal Society Trading Limited, the Royal Society (London) Ltd and The Royal Society Enterprise Fund Limited gift aid their profits to the Royal Society.

The Society invests in innovative early-stage businesses emerging from the science base in the UK and elsewhere through its Enterprise Fund. Where the Society's investment in a company exceeds 20% of the voting rights and the Society considers that it exercises significant influence over the operating and financial policy of the company, the Society, in accordance with FRS9, accounts for the investment as an associated undertaking. Where the Society does not consider that it exercises significant control, the Society holds the investment at cost or market price where available.

No separate Statement of Financial Activities (SOFA) has been presented for the Charity alone, as permitted by paragraph 397 of the SORP.

### **Fund accounting**

Unrestricted funds comprise accumulated surpluses and deficits on general funds that are available for use at the discretion of the Trustees in furtherance of the general objectives of the Charity.

Restricted and endowment funds are subject to specific restrictions imposed by the donor.

Transfers between funds may arise when there is a charge from unrestricted funds to other funds or there is a release of restricted funds to unrestricted funds.

### **Incoming resources**

Donated goods and services are included at the value to the Society where these can be quantified. No amounts are included in these Financial Statements for the services donated by volunteers or Fellows. Income from trading in subsidiary undertakings is transferred to the Society by covenanting the profits of those undertakings. Donations are accounted for as soon as their amount and receipt is certain. Donations include Gift Aid based on amounts recoverable at the accounting date.

Legacy income is recognised on a receivable basis when there is sufficient evidence to provide necessary certainty that it will be received and the value of the incoming resources can be measured with sufficient reliability. Council has determined that it does not regard a legacy as receivable until probate has been granted in respect of the estate.

Fellows' Annual Contributions are recognised in the year in which they become due. Fellows' Annual Contributions may be compounded into a single payment which is fully recognised in the year it is paid.

Investment income and interest on deposits is recognised on an accruals basis. Investment income arising on endowment funds is credited to the appropriate fund in accordance with the prescribed conditions.

Grants are credited as income in the year in which they are receivable. Grants are recognised as receivable when all conditions for receipt have been complied with. Where donor-imposed restrictions apply to the timing of the related expenditure as a precondition of its use, the grant is treated as deferred income until those restrictions are met. Grants received for specific purposes are accounted for as restricted funds.

Grants receivable in respect of expenditure on tangible fixed assets are treated as income of either a restricted fund or an unrestricted fund as applicable.

### **Charitable expenditure**

Charitable expenditure includes all expenditure incurred on grants awarded and on other schemes run in pursuance of the Society's objectives under its Charter, including Fellowship activities and primary purpose trading. The Society adopted a new five year strategy in 2012 and the charitable activities of the Society have been reported under the six main strategic objectives. The direct costs of supporting these activities, including staff, establishment, and other overhead costs, are separately analysed and shown as support costs under this heading. Expenditure, including irrecoverable VAT, is accounted for on an accruals basis.

Development expenses include those costs incurred in raising donations and legacies.

Governance costs are incurred in relation to the running of the Society. This includes strategic planning and attending to the Society's statutory affairs.

Expenditure on staff, establishment, and operating costs are allocated to charitable activities, governance and fundraising on the basis of the staff costs of each activity.

Grants are recognised as a liability when the Society is under a legal or constructive obligation to make a transfer to a third party. As the Society retains the discretion to terminate grants only the grant expenditure in the current financial year is recognised in the financial statements. Grant commitments in future periods are treated as liabilities of those periods and not as liabilities at the Balance Sheet date. Such grants are disclosed as future commitments.

#### Foreign currency

Transactions in foreign currencies are translated into sterling using a weekly rate of exchange ruling at the date of the transaction. Assets and liabilities in foreign currency are translated into sterling at the rate of exchange ruling on the Balance Sheet date.

#### Leased assets

All operating leases and rental expenses are charged to the SOFA as incurred over the term of the lease on a straight line basis.

#### Tangible fixed assets

Expenditure on tangible fixed assets is capitalised if the cost of the total asset exceeds £5,000. Additions of smaller value may be capitalised if forming part of a larger asset. The cost of other items is written off as incurred.

Depreciation is calculated, on all assets excluding freehold land and assets under development, to write off the cost of tangible fixed assets on a straight line basis over their expected useful lives as follows:

Freehold property and improvements:	20 – 50 years
Leasehold improvements:	20 – 30 years
Computers and AV equipment:	3 – 5 years
Other equipment:	10 – 20 years.

Fixed assets are subject to review for impairment when there is an indication of a reduction in their carrying value. Any impairment is recognised in the SOFA in the year in which it occurs.

### Heritage assets

Heritage assets comprise:

- Printed Books
- Archives
- Pictures, Sculptures and other works of Art
- Other artefacts

Printed Books and Archives are included on the Balance Sheet at cost using a valuation performed in 2003 as a proxy for cost.

Pictures, Sculptures, and other works of Art and Other artefacts are included on the Balance Sheet on a valuation basis. The valuation reflects the fair market / replacement value and is performed every 5 years.

Impairment reviews are carried out at the end of each reporting period to ensure that the carrying value of the heritage assets reflect their carrying amounts.

Additions to heritage assets are made by purchase or donation. Purchases are initially recorded at cost and donations are recorded at a current value where available. The cost of obtaining an annual value outweighs the value of any resultant benefit. The Society holds and retains these assets as a long-term policy for use in its charitable purposes and has no intention of disposing of any of these items.

The Trustees do not consider that reliable cost or valuation information can be obtained for a large part of the archives collection and the Society does not therefore recognise these assets on its Balance Sheet. The Society was founded in 1660 and the collection has been built up throughout its existence. Reliable and relevant information on the cost of many of the assets is therefore not readily available. The number of un-capitalised assets held in the collection is extensive and their nature diverse; accordingly efforts to obtain costs or values would be prohibitively expensive compared with any benefits arising from the exercise. Added to this, there is a lack of comparable market values. Therefore any value attributed to these assets would be purely speculative and of limited practical use.

### Investments

Investments listed on a recognised stock exchange, including Investment and Unit Trusts, are stated at mid-market value at the Balance Sheet date.

Net investment gains / losses for the year are credited / charged in the Statement of Financial Activities. Unlisted investments comprise directly held investments of the Enterprise Fund and Private Equity and Venture Capital funds managed by third party investment fund managers. These investments are held at fair value (market value) in accordance with the International Private Equity and Venture Capital Valuation Guidelines. Where a reliable estimate of fair value is not available, investments are held at cost. Investments held at cost are reviewed annually for impairment. No adjustment for impairment of the value of unlisted investments was considered necessary in the year.

Investment-management fees are charged proportionately against the funds under investment.

The investments in subsidiary undertakings are held at cost on the Society's balance sheet. The investment in an associated undertaking is valued at the Society's share of the fair value of the assets at the date of acquisition. The difference between that valuation and the price paid for the shares acquired is accounted for as goodwill and included in the value of the investment on the balance sheet.

### Amortisation of goodwill

The Society's policy is to consider its treatment of goodwill on a case-by-case basis. The investment in Sphere Fluidics Limited was not a long-term participating interest and the amortisation was reversed when Sphere Fluidics ceased to be treated as an associated company.

### Pension costs

The Society contributes to three pension schemes on behalf of its employees: the Pension and Life Assurance Plan of the Royal Society, a defined benefit scheme, the Universities Superannuation Scheme (USS), a defined benefit scheme and the Royal Society Group Personal Pension Plan, a defined contribution scheme.

The defined contribution scheme came into existence on 1 October 2013 and is open to all employees. The pension charge in relation to this scheme is based upon employer's contributions payable in the year.

USS is a multi-employer scheme and it is not possible to identify the Society's share of the underlying assets and liabilities. Therefore, as required by Financial Reporting Standard (FRS)17, the contributions are charged directly to the income and expenditure account as if it was a defined contribution scheme.

USS is a "last man standing" scheme which means that in the event that another member institution becomes insolvent the other participating members will pick up any funding shortfall. Further details about USS, information about the latest informal valuations of the scheme and proposed rule changes can be found at [www.uss.co.uk](http://www.uss.co.uk)

The assets of the Pension and Life Assurance Plan of the Royal Society scheme are held separately from those of the Society, in separate trustee-administered funds. Pension Scheme assets are measured at fair value and liabilities on an actuarial basis using the projected unit method and discounted at a rate equivalent to the current rate of return on a high-quality corporate bond of equivalent currency and term to the Scheme liabilities. The actuarial valuations are obtained triennially and updated under FRS17 rules at each Balance Sheet date. Any surplus or deficit is shown in the Balance Sheet as an asset or liability.

The charge to the Statement of Financial Activities is calculated so as to spread the cost of pensions over employees' working lives with the Society. The charge comprises the current service cost computed by the actuary under FRS17 and gains and losses on settlements and curtailments. Past-service costs are recognised immediately if the benefits have vested. If the benefits have not vested immediately, the costs are recognised over the period until vesting occurs. The interest costs and the expected return on assets are shown as a net amount of other finance costs or credits charged or credited to the Statement of Financial Activities. Actuarial gains and losses are recognised immediately under the description 'Actuarial losses on defined benefits pension scheme'.

### **Taxation**

The Society is a Registered Charity and as such is entitled to certain tax exemptions on income and profit from investments and surpluses on any trading activities carried out in furtherance of the Charity's primary objectives. These profits are applied solely for charitable purposes.

# Notes to the financial statements

For the year ended 31 March 2014

1. Voluntary income						
	Unrestricted Funds £'000	Restricted Funds £'000	Expendable Endowment Funds £'000	Permanent Endowment Funds £'000	2014 Total Funds £'000	2013 Total Funds £'000
Gifts and Donations	94	465	–	–	559	1,376
Acquisition of Wolfson assets	–	–	–	–	–	1,054
Legacies	7	34	2,000	–	2,041	1,012
Fellows' Contributions	216	–	–	–	216	240
<b>Total</b>	<b>317</b>	<b>499</b>	<b>2,000</b>	<b>–</b>	<b>2,816</b>	<b>3,682</b>

2. Investment income						
	Unrestricted Funds £'000	Restricted Funds £'000	Expendable Endowment Funds £'000	Permanent Endowment Funds £'000	2014 Total Funds £'000	2013 Total Funds £'000
Dividends – UK Equities	840	2,237	–	–	3,077	2,864
Dividends – Overseas Equities	301	801	–	–	1,102	892
Interest – UK fixed interest securities	–	1	–	–	1	25
Interest – Overseas fixed interest securities	85	227	–	–	312	327
Bank deposit interest	19	21	–	–	40	38
Other gains and loan interest	5	15	–	–	20	72
<b>Total</b>	<b>1,250</b>	<b>3,302</b>	<b>–</b>	<b>–</b>	<b>4,552</b>	<b>4,218</b>

3. Trading								
	2014				2013			
	External Income £'000	Recharged Internal lettings £'000	Gross Expenditure £'000	2014 Net Surplus/ (deficit) £'000	External Income £'000	Recharged Internal lettings £'000	Gross Expenditure £'000	2013 Net Surplus/ (deficit) £'000
<b>Incoming resources from generated funds</b>								
Lettings through Subsidiary – Kavli Royal Society International Centre	910	421	1,743	(412)	641	54	561	134
<b>Trading in furtherance of charitable activities</b>								
Publishing	5,672	–	3,064	2,608	5,213	–	3,100	2,113
Lettings in furtherance of objectives – Carlton House Terrace	2,840	1,209	3,003	1,046	2,651	1,163	2,811	1,003
Lettings in furtherance of objectives – Kavli Royal Society International Centre	4	–	(8)	12	2	314	854	(538)
Other	375	–	–	375	742	(1)	–	741
	<b>8,891</b>	<b>1,209</b>	<b>6,059</b>	<b>4,041</b>	<b>8,608</b>	<b>1,476</b>	<b>6,765</b>	<b>3,319</b>
<b>Total</b>	<b>9,801</b>	<b>1,630</b>	<b>7,802</b>	<b>3,629</b>	<b>9,249</b>	<b>1,530</b>	<b>7,326</b>	<b>3,453</b>

The costs of the Society's publishing operation and the costs associated with the letting's in furtherance of charitable objects are included in "Supporting outstanding science" on the face of the SOFA, the costs of lettings through the Subsidiary are included in the Costs of generating funds.

The Society was exempt from income tax, corporation tax and capital gains tax on income derived from its primary purpose trading and charitable activities.

The Royal Society Trading Limited donates its profits to The Royal Society.

4. Grants for activities							
	Unrestricted Funds £'000	Restricted Funds £'000	Expendable Endowment Funds £'000	Permanent Endowment Funds £'000	2014 Total Funds £'000	2013 Total Funds £'000	
<b>From Government and other public bodies:</b>							
Grant from the Department of Business, Innovation and Skills	1,029	46,072	–	–	47,101	47,101	
Other grants from government and public bodies	–	2,051	–	–	2,051	1,395	
<b>From other external bodies</b>							
Contribution to charitable activities	–	4,204	–	–	4,204	4,937	
<b>Total</b>	<b>1,029</b>	<b>52,327</b>	<b>–</b>	<b>–</b>	<b>53,356</b>	<b>53,433</b>	

Details of the income to and movement of individual funds are disclosed in note 20.

## 5. Analysis of costs of charitable activities

	Staff Costs £'000	Grant Costs £'000 (Note 9)	Other direct costs £'000	Support Costs £'000 (Note 6)	2014 Total £'000	2013 Total £'000
<b>Charitable activities</b>						
Promoting science and its benefits	142	336	205	209	892	457
Recognising excellence in science	7	–	149	10	166	203
Supporting outstanding science	2,087	41,980	5,439	3,069	52,575	52,886
Providing scientific advice for policy	616	1	272	906	1,795	1,480
Fostering international and global cooperation	278	5,593	1,103	409	7,383	6,880
Education and public engagement	949	443	960	1,396	3,748	3,780
Write down of fixed asset (see note 13)	–	–	–	–	–	12,205
<b>Total for costs of charitable activities</b>	<b>4,079</b>	<b>48,353</b>	<b>8,128</b>	<b>5,999</b>	<b>66,559</b>	<b>77,891</b>

## 6. Support costs

	Media relations and public engagement £'000	Facilities and building management £'000	Support services £'000	2014 Total £'000	2013 Total £'000
Costs of generating funds	11	42	92	145	154
<b>Charitable activities</b>					
Promoting science and its benefits	16	61	132	209	12
Recognising excellence in science	1	3	6	10	9
Supporting outstanding science	240	892	1,937	3,069	2,493
Providing scientific advice for policy	71	263	572	906	637
Fostering international and global cooperation	32	119	258	409	368
Education and public engagement	109	406	881	1,396	1,052
	<b>469</b>	<b>1,744</b>	<b>3,786</b>	<b>5,999</b>	<b>4,571</b>
Governance	9	32	71	112	111
<b>Total support costs</b>	<b>489</b>	<b>1,818</b>	<b>3,949</b>	<b>6,256</b>	<b>4,836</b>

Facilities and building management comprises the rent and running costs (depreciation, insurance, cleaning and security) of Carlton House Terrace.

Support services comprise finance, IT, HR, pension costs and corporate management.

Support costs are allocated using departmental salary costs as a base.

<b>7. Staff costs</b>		
	2014 £'000	2013 £'000
Salaries	6,298	5,666
Social Security costs	569	499
Pension costs	1,556	815
<b>Total</b>	<b>8,423</b>	<b>6,980</b>

**The following numbers of employees of the Royal Society received total emoluments within the bands shown.**

	2014	2013
Number of employees earning £60,000 pa or more:		
£60,001 – £70,000	4	5
£70,001 – £80,000	4	1
£80,001 – £90,000	1	–
£90,001 – £100,000	2	2
£100,001 – £110,000	1	–
£120,001 – £130,000	1	–
£160,001 – £170,000	1	–
£190,001 – £200,000	–	1
£200,001 – £210,000	1	–
£210,001 – £220,000	–	1

Of the 15 (2013:10) employees above, 13 (2013: 9) are accruing benefits under a defined benefits pension scheme and 1 employee (2013: nil) is accruing benefits under a defined contribution pension scheme.

The total amount of employer contributions paid in respect of the above employees into a defined benefit scheme was £182,000 (2013: £122,000). The total amount of employer contributions paid in respect of the above employee into a defined contribution pension scheme was £7,000 (2013: £nil).

Of the employees above redundancy payments were made to 1 (2013: 1) employee. Total redundancy payments in respect of the above employee were £93,000 (2013: £131,000)..

**The following numbers of employees of the Royal Society Enterprise Fund Limited received total emoluments within the bands shown.**

	2014	2013
Number of employees earning £60,000 pa or more:		
£70,001 – £80,000	1	–
£150,001 – £160,000	–	1
£430,001 – £440,000	1	–

Of the 2 (2013: 1) employees above, 1 (2013: nil) is accruing benefits under a defined benefits pension scheme.

The total amount of employer contributions paid in respect of the above employee into a defined benefit scheme was £7,000 (2013: £nil).

Of the employees above redundancy, bonus and pay in lieu of notice payments were made to 2 (2013: nil) employees, the total payments in respect of the above employees were £276,000 (2013: £nil).

**7. Staff costs** (continued)

The average number of employees, analysed by function, was:

	2014	2013
Generating funds	2	2
Charitable activities	94	92
Support & Governance	43	41
Royal Society Enterprise Fund Limited	2	2
<b>Total</b>	<b>141</b>	<b>137</b>

The average number of employees on a full-time equivalent basis was 138 (2013: 133).

There were no (2013: nil) employees of the Royal Society (Trading) Limited.

There were no (2013: nil) employees of the Royal Society (London) Ltd.

**8. Governance costs**

	2014 Total £'000	2013 Total £'000
Fellowship costs	127	129
Council and committee expenses	64	54

**Auditor's remuneration:**

Audit fee	33	35
Audit fee – (over) / under provision prior year	(2)	4
Non audit services	5	1
Internal audit	121	24
Legal and professional fees	423	658
Staff costs	76	98
Allocated support costs	112	111
<b>Total</b>	<b>959</b>	<b>1,114</b>

9. Grants				
	Grants to Institutions £'000	Grants to Individuals £'000	2014 Total £'000	2013 Total £'000
<b>Fellowships</b>				
University Research Fellowships	–	25,671	25,671	30,428
Dorothy Hodgkin Fellowships	–	2,357	2,357	3,558
Newton International Fellowships	–	2,109	2,109	2,212
Wolfson Research Merit Award	3,116	–	3,116	2,644
Leverhulme Trust Senior Research Fellowships	–	114	114	298
Royal Society Research Professorships	–	6,680	6,680	2,253
Industry Fellowships	–	1,693	1,693	1,423
International Fellowship Grants	–	183	183	136
Sir Henry Dale Fellowships	–	1,008	1,008	224
<b>Education Schemes</b>				
Education Research Fellowships	–	212	212	198
Partnership grants scheme	87	–	87	72
Other Education grants	–	78	78	77
<b>Other Grant Programmes</b>				
Brian Mercer Awards	–	336	336	246
Paul Instrument Fund	–	393	393	363
Awards & prizes	–	201	201	246
Leverhulme Royal Society Africa Awards	–	591	591	1,012
India–UK Scientific Seminars	–	80	80	69
International Exchanges	–	2,021	2,021	1,394
DFID Africa Awards	–	546	546	–
Theo Murphy Blue Skies Awards	–	–	–	(39)
Athena SWAN	21	–	21	25
DAIWA joint projects	–	14	14	23
Foundation for Science and Technology	25	–	25	20
International Council for Scientific Unions	6	–	6	–
South Africa Seminars	–	(28)	(28)	–
Julie Birchall Grant	–	–	–	2
Kavli Scientific	–	75	75	88
Summer Science Exhibition 2013	1	–	1	–
Wolfson Laboratory Refurbishment Grants	763	–	763	1,416
<b>Total</b>	<b>4,019</b>	<b>44,334</b>	<b>48,353</b>	<b>48,388</b>

**9. Grants (continued)**

	Number	2014 Total £'000	2013 Total £'000
<b>Recipients of institutional grants</b>			
Swansea University	4	293	92
University of Oxford	24	286	205
Imperial College London	22	279	437
University of Southampton	13	278	171
University College London	18	248	250
King's College London	4	234	167
University of Bristol	20	198	256
University of Glasgow	13	195	330
University of Bath	8	146	95
University of Cambridge	9	137	143
University of Warwick	10	120	75
University of Leicester	7	105	82
University of Edinburgh	8	100	152
University of Leeds	9	89	56
University of York	7	86	54
University of St Andrews	8	79	105
University of Manchester	8	73	58
University of Nottingham	6	65	79
University of Exeter	5	61	3
Aston University	2	59	1
University of Surrey	4	51	2
University of Strathclyde	6	50	4
Other organisations	103	786	1,335
<b>Total</b>	<b>318</b>	<b>4,018</b>	<b>4,152</b>

Grants are generally awarded to particular individuals, although the actual award is made to the host organisation.

Details of individual grants awarded during the year analysed by organisation are available from the finance department on request.

	2014 Total £'000	2013 Total £'000
<b>Reconciliation of Grants payable</b>		
Liability at 1 April	1,155	586
New grants awarded in year	50,045	49,831
Grants paid in year	(48,230)	(47,819)
Grants refunded to the Society	(1,692)	(1,443)
<b>Liability at 31 March</b>	<b>1,278</b>	<b>1,155</b>

All grants payable fall due within one year.

10. Payments to Trustees		
	2014 Total £'000	2013 Total £'000
Remuneration	–	–
<b>Expenses: travel &amp; subsistence</b>	<b>41</b>	<b>38</b>

Expenses were reimbursed to 20 Trustees (2013: 26 Trustees).

#### **Indemnity Insurance**

With the consent of the Charity Commission the Society has taken out Trustees' indemnity insurance. The cost of this insurance for the year was £2,500 (2013: £2,500). No claims have been made under this policy.

#### **Grants and Awards**

Professor Michael Cates is a holder of a Royal Society Research Professorship. The amount paid to the University of Edinburgh in respect of the award in the year was £156,000.

Professor John Wood is a holder of a Wolfson Research Merit Award. The amount paid to the University College London in respect of the award in the year was £25,000.

#### **Other**

Sir Paul Nurse, President of the Royal Society, has use of the President's flat at Carlton House Terrace.

11. Total resources expended include the following amounts		
	2014 Total £'000	2013 Total £'000
<b>Operating lease rentals</b>		
Plant and machinery	46	46
Rent	490	490
	<b>536</b>	<b>536</b>
<b>Fees payable to the current* Charity's auditors for:</b>		
The audit of the Charity and Group accounts	26	–
The audit of the Charity's subsidiaries accounts pursuant to legislation	7	–
<b>Audit fees to current auditors</b>	<b>33</b>	<b>–</b>
<b>Fees payable to the previous** Charity's auditors for:</b>		
The audit of the Charity and Group accounts	–	28
The audit of the Charity's subsidiaries accounts pursuant to legislation	–	7
Audit fee – (over) / under provision for the prior year	(2)	4
<b>Audit fees to previous auditors</b>	<b>(2)</b>	<b>39</b>
<b>Total audit fees</b>	<b>31</b>	<b>39</b>
<b>Non audit fees payable to current* Charity's auditors for:</b>		
Tax services	–	–
Other consultancy	–	–
<b>Non audit fees to current auditors</b>	<b>–</b>	<b>–</b>
<b>Non audit fees payable to previous** Charity's auditors for:</b>		
Tax services	3	1
Other consultancy	2	–
<b>Total non-audit fees</b>	<b>5</b>	<b>1</b>
<b>Total non audit fees</b>	<b>5</b>	<b>1</b>
<b>Charges on owned assets</b>		
Depreciation	1,355	1,462
Impairment – revaluation of Chicheley Hall	–	12,205
	<b>1,355</b>	<b>13,667</b>
<b>Trustees' expenses</b>		
Trustee travel and other expenses	41	38
	<b>41</b>	<b>38</b>

\* The auditors for the Royal Society for 2014 are Deloitte LLP.

\*\* The auditors for the Royal Society for 2013 were BDO LLP.

## 12. Financial Memorandum with the Department of Business, Innovation and Skills and Department for International Development

	2014 Total £'000	2013 Total £'000
<b>Business, Innovation and Skills Grant</b>		
Income	47,101	47,102
Expenditure	(47,096)	(47,101)
	<b>5</b>	<b>1</b>
<b>Department for International Development Grant</b>		
Income	862	169
Expenditure	(862)	(169)
	<b>-</b>	<b>-</b>

## 13. Tangible fixed assets – Group and Charity

	Chicheley Hall freehold property and improvements £'000	Chicheley Hall computers and other equipment £'000	Leasehold improvements £'000	Computers and other equipment £'000	Assets under development £'000	2014 Total £'000	2013 Total £'000
<b>Cost:</b>							
At 1 April 2013	17,362	651	16,749	3,815	-	38,577	38,368
Additions	41	102	172	291	583	1,189	243
Disposals	-	-	-	-	-	-	(34)
<b>At 31 March 2014</b>	<b>17,403</b>	<b>753</b>	<b>16,921</b>	<b>4,106</b>	<b>583</b>	<b>39,766</b>	<b>38,577</b>
<b>Depreciation:</b>							
At 1 April 2013	13,362	276	5,635	3,576	-	22,849	9,182
Charge for year	289	89	776	201	-	1,355	13,667
<b>At 31 March 2014</b>	<b>13,651</b>	<b>365</b>	<b>6,411</b>	<b>3,777</b>	<b>-</b>	<b>24,204</b>	<b>22,849</b>
<b>Net book value at 31 March 2014</b>	<b>3,752</b>	<b>388</b>	<b>10,510</b>	<b>329</b>	<b>583</b>	<b>15,562</b>	<b>15,728</b>
Net book value at 31 March 2013	4,000	375	11,114	239	-	15,728	

The Group and the Charity have freehold property with a net book value of £3,753,000 (2013: £4,000,000).

An impairment charge of £12,205,000 was recognised as accelerated depreciation following a revaluation by external valuers during 2013.

**14. Capital commitments – Group and Charity**

	2014 £'000	2013 £'000
Authorised and contracted for	80	83
Authorised but not contracted for	2,590	494
<b>Total commitment</b>	<b>2,670</b>	<b>577</b>

At the balance sheet date, £1,955,000 of capital commitments was authorised for refurbishment of 6 – 9 Carlton House Terrace, of which none have been contracted for by the year end. A further spend of £619,000 had been authorised on IT projects, of which £80,000 has been contracted for by the year end. £96,000 had been authorised for the historic maintenance of Chicheley Hall. No contracts for this expenditure had been signed by the year end.

**15. Heritage assets – Group and Charity**

The Society holds an extensive collection of heritage assets relating to the history of the Society itself and the wider history of scientific endeavour. The collection has four main components:

**Printed works:** The Library contains over 70,000 titles, published from the 1470s to the present day. The main strength of the collections is in the 17th and 18th centuries: from the 1680s to the mid–19th century, the policy of the Library was to acquire every important scientific publication.

**Archives:** These comprise an extraordinary and unrivalled record of the development of science that spans nearly 350 years. The archive collection is a unique resource for historians, particularly historians of science, containing over 250,000 items.

**Pictures, sculptures, and other works of Art:** The collection includes over 6,000 photographs, engravings, and paintings of past and present Fellows.

**Other artefacts:** The collection comprises approximately 150 items and includes scientific instruments, furniture and furnishings, and the Society's Charter Book.

The collections are accessible to scholars and the wider public through the Royal Society's History of Science Centre, which includes a reference library and an extensive on–line presence, including fully searchable catalogue and image library. Items are not catalogued, but the Society has an ongoing cataloguing project.

**15. Heritage Assets – Group and Charity (continued)**

	2014 £'000	2013 £'000
<b>Heritage assets</b>		
Items included at valuation at 1 April	11,173	11,173
Items included at cost at 1 April	36,077	36,046
Revaluation of assets during the year	1,449	–
Additions at valuation	–	–
Additions at cost	21	31
<b>Valuation or cost at 31 March</b>	<b>48,720</b>	<b>47,250</b>
<b>The heritage assets comprise:</b>		
Printed books	13,242	13,239
Archives	22,856	22,838
Pictures, Sculptures and other works of Art	8,850	8,169
Other artefacts	3,772	3,004
	<b>48,720</b>	<b>47,250</b>

The Printed Books and Archives were valued on 5 August 2003 by Roger Gaskell, a rare book dealer. This valuation is used as a proxy for cost.

The Pictures, Sculptures and Other artefacts were valued by Weller King, Fine Art Dealers, in May 2004. A revaluation of the Pictures, Sculptures and Other artefacts was conducted by Weller King during the year and a revaluation gain of £1,449,000 has been recognised in the Financial Statements. The valuations are on a fair market / replacement basis on those parts of the collection where it is felt such a valuation can be reasonably made. The Trustees consider there to be no material impairment on the present fair market / replacement values compared to those stated.

**Five year financial summary of heritage asset transactions:**

	2013/14 £000	2012/13 £000	2011/12 £000	2010/11 £000	2009/10 £000
<b>Additions</b>					
Printed books	3	1	4	1	–
Archives	–	30	18	84	–
Pictures, Sculptures and other works of Art	18	–	7	70	–
Other artefacts	–	–	–	10	1
<b>Total additions</b>	<b>21</b>	<b>31</b>	<b>29</b>	<b>165</b>	<b>1</b>
<b>Revaluations</b>					
Printed books	–	–	–	–	–
Archives	–	–	–	–	–
Pictures, Sculptures and other works of Art	681	–	–	–	–
Other artefacts	768	–	–	–	–
<b>Total revaluation</b>	<b>1,449</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>

In 2010/11 the Society recognised £145,000 of donated heritage assets that it had received over the previous five years. These assets had not previously been accounted for as only a small amount was received each year. The full amount was recognised in 2010/11. In subsequent years donations have been recognised in the year they were received.

There have been no disposals of heritage assets within the last five years.

**Preservation and Management**

Expenditure which in the trustees' view is required to preserve or clearly prevent further deterioration of individual collection items is recognised in the Statement of Financial Activities when it is incurred.

The Society has an on-going cataloguing project.

The Society's major strategic facilities for the long-term preservation of its historic archives, manuscripts and printed books are environmentally-controlled store-rooms (conforming to British Standard 5454 ("Preservation of archival documents")).

The Society's modern records have been subject to a full audit, completed in April 2011. This process enabled the full-life management, destruction and permanent archiving of pertinent files. Conservation of damaged items is now underway, as is a more detailed cataloguing of individual collection elements.

Collections are managed and recorded in discrete databases and according to the prevailing standard in each area (for example, ISAD for archival cataloguing, SPECTRUM for museum standards and picture control).

**16. Investments – Group and Charity**

	2014 Total £'000	2013 Total £'000
Valuation at 1 April 2013	185,996	159,391
Reclassification from associate investment	–	243
Additions of investments	19,745	13,654
Recognition of Wolfson Professorship assets	–	1,054
Disposal of investments	(20,733)	(10,968)
Net change in cash invested for trades within portfolio	935	(1,942)
Investment management costs	(501)	(446)
Net cash added to portfolio	3,382	2,704
Net unrealised gain on valuation at 31 March	8,745	22,251
Exchange rate (loss) / gains on valuation at 31 March	(734)	55
<b>Valuation at 31 March</b>	<b>196,835</b>	<b>185,996</b>
Total historical cost at the end of the year	145,283	136,197
	2014 £'000	2013 £'000

**The valuation at 31 March comprises:**

Investments listed on a recognised stock exchange:		
UK	115,196	116,725
Overseas	64,657	54,821

**Other Unlisted Securities:**

UK	3,761	3,947
Overseas	8,742	9,271

**Cash:**

UK	1,157	(88)
Overseas	3,322	1,320
	<b>196,835</b>	<b>185,996</b>

**16. Investments – Group and Charity** (continued)

Overseas investments comprise equities, unit / investment trusts and fixed interest funds.

The trustees believe that the carrying value of the investments is supported by their underlying net assets.

At 31 March 2014 no investments exceeded 5% by value of the invested portfolio (2013: nil)

The Society owns 100% of the issued share capital of The Royal Society Enterprise Fund Limited (note 23).

The principal activity of the company is providing advice to the Society in its application of the Enterprise Fund

The Society owns 100% of the issued share capital of The Royal Society Trading Limited (note 23).

The principal activity of the company is conferencing activities at Chicheley Hall

The Society owns 100% of the issued share capital of the Royal Society (London) Ltd (note 23).

No business activity was undertaken from the date of incorporation to 31 March 2014

The Society owns share capital in the following companies which are investments of the Enterprise Fund:

Base4 Innovation Limited	6.27%
Novacem Limited	18.93%
OrganOx Limited	4.39%
Sphere Fluidics Limited	15.42%

2014 Total £'000	2013 Total £'000
------------------------	------------------------

**The Society's Trust funds are invested as follows:**

Specific investments – Enterprise Fund	2,638	2,691
Specific investments – Theo Murphy Australia Fund	3,528	3,749
Specific investments – Wolfson Research Professorship Trust	–	1,121
All other trust funds are invested in the main investment portfolio	190,669	178,435
<b>Total</b>	<b>196,835</b>	<b>185,996</b>

2014 £'000	2013 £'000
---------------	---------------

**Reconciliation of investment gains**

Unrealised gains	8,745	22,251
Realised gains	545	233
Exchange rate (loss) / gain on valuation	(734)	55
<b>Net gains on investments as per SOFA</b>	<b>8,556</b>	<b>22,539</b>

<b>17. Debtors – Group</b>				
	2014 Receivable within one year £'000	2014 Receivable after one year £'000	2013 Receivable within one year £'000	2013 Receivable after one year £'000
Trade debtors	1,157	–	1,152	–
Grants receivable	500	1,500	700	2,000
Legacy receivable	4,600	–	3,045	–
Other debtors	99	–	111	–
Accrued income	491	–	371	–
Prepayments	191	–	207	–
	<b>7,038</b>	<b>1,500</b>	<b>5,586</b>	<b>2,000</b>

Included in the Group debtors are debtors of £150,000 (2013: £191,000) belonging to Royal Society Trading Ltd. All other debtors relate to the Charity.

The Charity holds a loan in respect of Royal Society Trading Ltd of £130,000 (2013: £534,000).

<b>18. Creditors – Group</b>				
	2014 Due within one year £'000	2014 Due after one year £'000	2013 Due within one year £'000	2013 Due after one year £'000
Trade creditors	623	–	1,701	–
Publications advanced sales	2,913	–	3,036	–
Chicheley advanced sales	192	–	17	–
Grants payable	1,278	–	1,155	–
Other creditors	662	77	568	129
Accruals & deferred income	4,728	–	5,237	–
	<b>10,396</b>	<b>77</b>	<b>11,714</b>	<b>129</b>

Included in the Group creditors are creditors of £808,000 (2013: £153,000) relating to Royal Society Trading Ltd. All other creditors relate to the Charity.

	2014 £'000	2013 £'000
<b>Reconciliation of deferred grant income</b>		
Deferred income as at 1 April	4,459	4,748
Income deferred in year	2,037	2,476
Income released to SOFA in year	(2,657)	(2,765)
<b>Deferred income as at 31 March</b>	<b>3,839</b>	<b>4,459</b>

**19. Analysis of net assets between funds – Group**

	Unrestricted Funds £'000	Restricted Funds £'000	Expendable Endowment Funds £'000	Permanent Endowment Funds £'000	2014 Total Funds £'000	2013 Total Funds £'000
<b>Funds' balances at 31 March 2014 are represented by:</b>						
Tangible fixed assets	15,562	–	–	–	15,562	15,728
Heritage assets	48,720	–	–	–	48,720	47,250
Investments	29,905	40,095	28,667	98,168	196,835	185,996
Net current (liabilities) / assets	(205)	–	–	–	(205)	558
Creditors: Due after one year	(77)	–	–	–	(77)	(129)
Defined benefit pension scheme liability	(7,108)	–	–	–	(7,108)	(11,919)
<b>Net assets</b>	<b>86,797</b>	<b>40,095</b>	<b>28,667</b>	<b>98,168</b>	<b>253,727</b>	<b>237,484</b>

The net current liabilities in 2014 are funded by investments, which could be realised to meet the net liabilities as they fall due.

**20. Movements on Trust and Specific Funds in year – Group**

	B/Fwd @ 01/04/13 £000	Income £000	Expenditure £000	Transfers £000	Investment and actuarial gain/(loss) £000	C/Fwd @ 31/03/14 £000
<b>Permanent Endowment Funds</b>						
General Trust Fund	2,335	–	(6)	–	105	2,434
International Fund	1,244	–	(3)	–	56	1,297
Life Sciences Fund	11,389	–	(28)	–	510	11,871
Mathematics and Physical Sciences Fund	10,448	–	(26)	–	468	10,890
RW Paul Instrument Fund	11,203	–	(28)	–	502	11,677
The Crowley–Milling Fund	1,065	–	(3)	–	48	1,110
Project Funds	6	–	–	–	–	6
Theo Murphy UK Fund	53,696	–	(133)	–	2,405	55,968
Theo Murphy Australia Fund	3,217	–	–	–	(472)	2,745
RS Pensioners Fund	163	–	–	–	7	170
<b>Total Permanent Endowment Funds</b>	<b>94,766</b>	<b>–</b>	<b>(227)</b>	<b>–</b>	<b>3,629</b>	<b>98,168</b>

**20. Movements on Trust and Specific Funds in year – Group (continued)**

	B/Fwd @ 01/04/13 £000	Income £000	Expenditure £000	Transfers £000	Investment and actuarial gain/(loss) £000	C/Fwd @ 31/03/14 £000
<b>Expendable Endowment Funds</b>						
General Trust Fund	10,504	–	(25)	–	470	10,949
International Fund	299	–	(1)	–	13	311
Life Sciences Fund	6,676	–	(17)	–	299	6,958
Mathematics and Physical Sciences Fund	3,635	–	(9)	–	163	3,789
Science Policy endowment	2,112	–	(5)	–	95	2,202
Ken Murray Fund	–	2,000	–	–	–	2,000
Education Policy endowment	1,207	–	(3)	–	54	1,258
GSK	1,151	–	(3)	–	52	1,200
<b>Total Expendable Endowment Funds</b>	<b>25,584</b>	<b>2,000</b>	<b>(63)</b>	<b>–</b>	<b>1,146</b>	<b>28,667</b>
<b>Restricted Funds</b>						
International Fund	1,011	57	(68)	9	44	1,053
Life Sciences Fund	8,397	591	(710)	(44)	362	8,596
Mathematics and Physical Sciences Fund	7,261	478	(481)	(28)	315	7,545
Science Policy endowment	39	48	(80)	(5)	–	2
Education Policy endowment	22	27	(21)	(24)	–	4
GSK	21	26	–	(3)	1	45
RW Paul Instrument Fund	350	256	(410)	(42)	6	160
The Crowley–Milling Fund	11	24	–	(3)	–	32
Pension relief fund	23	4	–	–	1	28
Enterprise Fund	7,192	369	(727)	(18)	710	7,526
Andrew Fund	1,490	65	(4)	(4)	67	1,614
Noreen Murray Fund	2,300	51	(64)	(6)	102	2,383
Forrest fund	1,721	42	(4)	(4)	77	1,832
Nutrition in old age fund	4,084	144	(10)	(9)	183	4,392
<b>Project Funds</b>						
DFID Africa Awards and Grants	–	862	(778)	(84)	–	–
Industry Programme	–	933	(1,719)	786	–	–
Leverhulme Africa Awards	–	682	(640)	(42)	–	–
Wolfson Research Merit Grants	–	1,116	(3,116)	2,000	–	–
Other	1,587	3,006	(2,983)	196	–	1,806
BIS Science & Research grant	1	46,072	(43,137)	(2,930)	–	6
Deferred refurbishment funds	2,321	–	–	(2,321)	–	–
Theo Murphy UK Fund	524	1,389	(574)	(483)	7	863
Theo Murphy Australia Fund	863	213	(32)	(21)	–	1,023
The Wolfson Research Professorship of the Royal Society	1,103	49	(2)	(3)	38	1,185
<b>Total Restricted Funds</b>	<b>40,321</b>	<b>56,504</b>	<b>(55,560)</b>	<b>(3,083)</b>	<b>1,913</b>	<b>40,095</b>

**20. Movements on Trust and Specific Funds in year – Group** (continued)

	B/Fwd @ 01/04/13 £000	Income £000	Expenditure £000	Transfers £000	Investment and actuarial gain/(loss) £000	C/Fwd @ 31/03/14 £000
<b>Unrestricted Funds</b>						
General Trust Fund	12,350	608	(515)	(66)	543	12,920
Deferred refurbishment funds	2,466	–	–	(2,466)	–	–
BIS Science & Research	–	1,029	(1,029)	–	–	–
Revaluation Reserve	46,036	–	–	–	1,449	47,485
Defined Benefit Pension	(11,919)	–	(936)	–	5,747	(7,108)
General Purposes	27,880	10,436	(11,756)	5,615	1,325	33,500
<b>Total Unrestricted Funds</b>	<b>76,813</b>	<b>12,073</b>	<b>(14,236)</b>	<b>3,083</b>	<b>9,064</b>	<b>86,797</b>

**20. Movements on Trust and Specific Funds in year – Group (continued)**

	B/Fwd @ 01/04/13 £000	Income £000	Expenditure £000	Transfers £000	Investment and actuarial gain/(loss) £000	C/Fwd @ 31/03/14 £000
<b>Total for all trusts</b>						
General Trust Fund	25,189	608	(546)	(66)	1,118	26,303
International Fund	2,554	57	(72)	9	113	2,661
Life Sciences Fund	26,462	591	(755)	(44)	1,171	27,425
Mathematics and Physical Sciences Fund	21,344	478	(516)	(28)	946	22,224
RW Paul Instrument Fund	11,553	256	(438)	(42)	508	11,837
The Crowley–Milling Fund	1,076	24	(3)	(3)	48	1,142
RS Pensioners Fund	186	4	–	–	8	198
Science Policy	2,151	48	(85)	(5)	95	2,204
Education Policy	1,229	27	(24)	(24)	54	1,262
GSK	1,172	26	(3)	(3)	53	1,245
Enterprise Fund	7,192	369	(727)	(18)	710	7,526
Andrew Fund	1,490	65	(4)	(4)	67	1,614
Noreen Murray Fund	2,300	51	(64)	(6)	102	2,383
Ken Murray Fund	–	2,000	–	–	–	2,000
Forrest Fund	1,721	42	(4)	(4)	77	1,832
Nutrition in old age fund	4,084	144	(10)	(9)	183	4,392
Project Funds						
DFID Africa Awards and Grants	–	862	(778)	(84)	–	–
Industry Programme	–	933	(1,719)	786	–	–
Leverhulme Africa Awards	–	682	(640)	(42)	–	–
Wolfson Research Merit Grants	–	1,116	(3,116)	2,000	–	–
Other	1,593	3,006	(2,983)	196	–	1,812
BIS Science & Research	1	47,101	(44,166)	(2,930)	–	6
Deferred refurbishment funds	4,787	–	–	(4,787)	–	–
Theo Murphy UK Fund	54,220	1,389	(707)	(483)	2,412	56,831
Theo Murphy Australia Fund	4,080	213	(32)	(21)	(472)	3,768
The Wolfson Research Professorship of the Royal Society	1,103	49	(2)	(3)	38	1,185
Revaluation Reserve	46,036	–	–	–	1,449	47,485
Defined Benefit Pension	(11,919)	–	(936)	–	5,747	(7,108)
General Purposes	27,880	10,436	(11,756)	5,615	1,325	33,500
<b>Total</b>	<b>237,484</b>	<b>70,577</b>	<b>(70,086)</b>	<b>–</b>	<b>15,752</b>	<b>253,727</b>

## 20. Movements on Trust and Specific Funds in year – Group (continued)

The objects of the **General Fund** are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community, the efficiency and effectiveness of the Royal Society and its Fellowship. This shall be done in particular by establishing, promoting, supporting and maintaining, for the general benefit of the public and the scientific community, its activities, premises, fixtures and fittings, equipment, libraries and archives, general publications and the history of science.

The objects of the **International Fund** are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community the study and investigation of, and research into all areas of science internationally. This shall be done in particular by promoting and carrying out international scientific collaboration, encouraging international interchange between scientists, advancing the engagement of the public in matters related to such international science, and providing the best possible scientific advice and information on international scientific policy.

The objects of the **Life Sciences Fund** are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community, the study and investigation of, and research into all areas of life sciences and other science at the interface between this area and other areas of science. This shall be done in particular by supporting scientists working in this area, advancing engagement of the public in all matters relating to such science and providing the best possible scientific advice and information to those making policy in the area of life science.

The objects of the **Mathematics and Physical Sciences Fund** are to promote and advance for the general benefit of the public, including the scientific (science, medicine, engineering and technology) community, the study and investigation of, and research into all areas of mathematics and physical sciences and other science at the interface between this area and other areas of science. This shall be done in particular by supporting scientists working in this area, advancing engagement of the public in all matters relating to such science and providing the best possible scientific advice and information to those making policy in the area of mathematics and physical science.

Following the Deed of retirement of the other trustees the property and investments of the **RW Paul Instrument Fund** were transferred to the sole remaining trustee being the Royal Society. The application of the income from the portfolio is restricted to the provision of grants under the Paul Instrument Grants Scheme.

The **Crowley–Milling Fund** has been established following a generous legacy from Gladys and Michael Crowley–Milling. The income from this fund is restricted to the promotion and encouragement of research in the physical sciences and their application especially for the support of young scientists.

The **Theo Murphy Funds** (in the UK and Australia) were created through a bequest from the estate of the late Theo Murphy. The funds “shall be used or applied to further scientific discovery in the fields of medicine, science, technology and engineering”. The Australia Fund will carry out activities in Australia in accordance with the will.

The **RS Pensioners Fund** was founded in 1919. By the wish of the original donors the capital is to remain intact and the income to be applied to the payment of pensions for servants of the Society and to make lump sum payments to Royal Society pensioners in need.

The **Science Policy Endowment** has been established following donations received from Sir Tom McKillop FRS and the Kohn Foundation to support the Science Policy Centre.

The **Kenneth Murray Fund** has been established following a generous legacy from Sir Kenneth Murray FRS to be held as an expendable endowment for a Royal Society Professorship.

The **Education Endowment** has been established from a generous donation from the Gatsby foundation to support the Society's education policy work.

The **GSK Endowment** was established from donated funds to be held as an expendable endowment for the advancement of research in the field of medical science by the establishment of a Royal Society Professorship.

The **Enterprise Fund** was created by generous donations in support of the Society in making equity investments in innovative early-stage businesses emerging from the science base in the UK and elsewhere.

## 20. Movements on Trust and Specific Funds in year – Group (continued)

The **Andrew Fund** has been established following a generous legacy from Dr Sydney Percy Smith Andrew FRS to be used for the purpose of promoting and establishing research for the advancement of natural knowledge particularly in interdisciplinary fields of understanding.

The **Noreen Murray Fund** has been established following a generous legacy from Lady Noreen Murray FRS for the support of research in neurological science.

The **Forrest Fund** has been established following a generous legacy for the support of British post doctorate electrical research in memory of Professor John Samuel Forrest.

The Society has accepted a donation to be applied to the study of **nutrition among the elderly**.

The **DfID Africa Awards and Grants** are a programme for scientists who wish to develop collaborative research consortia between scientists in sub-Saharan Africa and a research institution in the UK.

The **Industry Programme** is for academic scientists who wish to work on a collaborative project with industry and for scientists in industry who wish to work on a collaborative project within an academic organisation.

The **Leverhulme Africa Awards** are for scientists who wish to develop a collaborative research project between the UK and research institutions in either Ghana or Tanzania.

The **Wolfson Research Merit Grants** are a scheme for outstanding scientists who would benefit from a five-year salary enhancement to help recruit them to or retain them in the UK.

**Other project funds** comprise monies received to fund separate restricted projects in line with our charitable activities and are held as separate individual funds in our accounts.

The Society receives a Parliamentary Grant from the **Department for Business, Innovation and Skills (BIS)**. This supports work on scientific excellence and innovation, science and mathematics education, international activities and science communication activities.

**Deferred Refurbishment Funds** consist of grant income received in past years in respect of capital projects at Carlton House Terrace. This income was recognised in full upon receipt, and designated / restricted funds created to the value of the relevant assets, which were being reduced over time. On completion of the development, the restrictions on the donations were fully met and in agreement with the Auditor, these funds have been released in the year to unrestricted funds.

Following the deed of retirement of the other trustees the investments of the **Wolfson Research Professorship of the Royal Society** were transferred to the sole remaining trustee being the Royal Society. The application of the income from the portfolio is restricted to support the Wolfson Research Professorship.

The **Revaluation Reserve** relates to the revaluation of the heritage assets.

The transfers between projects and funds include administration charges of the investments held in the trusts, administration costs reclaimed from projects where applicable, notional interest paid to projects in respect of income held during the year and any income released to the general reserves at the end of projects (where allowed under the gift or grant agreement).

## 21. Financial commitments – Group and Charity

At 31 March 2014 the Society had the following commitments:

- an annual commitment for rent under a non-cancellable operating lease in respect of occupation of 6–9 Carlton House Terrace, London. The future commitment for rent is £490,000 (2013: £495,000) per annum. The next rent review will be on 5 January 2025.
- agreements and commitments to fund research professorships / fellowships and other grants totalling £102,000,000 (2013: £103,000,000). Of these, £40,000,000 (2013: £40,000,000) are due in less than one year, and £62,000,000 (2013: £63,000,000) in between two and five years. There are no grants payable in more than 5 years. As the Society retains the discretion to terminate these grants they are treated as liabilities of future periods and will be financed by specific grants or other income receivable in those periods.
- the Society has entered into investment contract commitments totalling £836,000 (2013: £1,700,000) payable at dates yet to be agreed.

## 22. Pension obligations – Group and Charity

The Royal Society (“the Employer”) operates two pension schemes and contributes to the Universities Superannuation Scheme (USS):

The Royal Society Group Personal Pension Plan, a defined contribution scheme which came into existence on 1 October 2013 and is open to all employees. During the year ended 31st March 2014 employer contributions to this scheme totalled £15,000 (2013: £nil).

Three members of the Society’s staff are members of the USS, a defined benefit scheme (2013: four members). During the year ended 31st March 2014, employer contributions to this scheme totalled £53,000 (2013: £50,000).

It is not possible to identify the Society’s share of the underlying assets and liabilities of the USS and hence contributions are accounted for as if it was a defined contribution scheme. USS is a defined benefit scheme which is externally funded and contracted out of the State Second Pension (S2P) and valued every three years by professionally qualified independent actuaries using the Projected Unit Method.

The rates of contribution for the USS is determined on the advice of actuaries, the cost recognised for the year in the Statement of Financial Activities being equal to the contribution to the scheme.

The Pension and Life Assurance Plan of the Royal Society (“the Plan”), a defined benefit scheme for all qualifying employees who joined the Society before 4 July 2013, with assets held in a separately administered fund. The scheme provides retirement benefits on the basis of members’ final salary. The Plan was closed to new members on 4 July 2013, although remains open to future benefit accrual.

The most recent valuation of the Plan under FRS17 was carried out as at 31 March 2014. The valuation of the Plan used the projected unit method and was carried out by Barnett Waddingham LLP, professionally qualified actuaries.

The FRS17 liability does not include any allowance for discretionary benefits. The Employer expects to make contributions to the Plan during the year to 31 March 2015 of around £1,565,000. The Society is currently undergoing staff consultation on two proposed changes to the plan. These are to increase the retirement age from 60 years to 65 years and to cap annual pay increases at 2%. These changes have not been taken into account in the above future contribution estimate.

Contributions payable by the Employer during the year were at the rate of 16.3% of Pensionable Salaries. Members’ contributions were 7% of Pensionable Salaries. An additional contribution of £0.2m to reduce the deficit was paid into the Plan by the Society in December 2013 (December 2012: £0.3m). Life cover and dependents’ pensions in respect of death in service are provided by additional insurance premiums.

## 22. Pension obligations – Group and Charity (continued)

The Principal assumptions used to calculate Plan liabilities include:

	2014 % pa	2013 % pa
Inflation (RPI)	3.60	3.60
Inflation (CPI)	2.70	2.70
Salary escalation	4.60	4.60
Increase to pensions in payment*		
– subject to LPI minimum 4%	4.20	4.20
– subject to LPI	3.50	3.50
Statutory revaluation	2.70	2.70
Discount rate (pre–and–post–retirement)	4.50	4.00
Pre–retirement mortality table	SINA	SINA
Post–retirement mortality table	SINA	SINA
Post–retirement mortality projection	CMI 2013 projections with LTR of 1.5% pa	Long Cohort based on Individual Year of Birth
Tax free cash	0%	0%
Withdrawals	None	None

\*Pensions in payment increase by the lesser of the annual increase in the retail price index or 5%. For service prior to 1 November 2001 this is subject to a minimum increase of 4%.

Under the mortality tables and projections adopted, the assumed future life expectancy at age 60 is as follows:

	2014	2013
Male currently aged 40	29.8 years	28.5 years
Female currently aged 40	32.4 years	31.1 years
Male currently aged 60	27.3 years	27.4 years
Female currently aged 60	29.9 years	30.1 years

## 22. Pension obligations – Group and Charity (continued)

The assets in the Plan and the expected rates of return were:

	Long term rate of return expected at 31/03/2014* % pa	Value at 31/03/2014 £'000	Long term rate of return expected at 31/03/2013* %pa	Value at 31/03/2013 £'000
<b>Plan's assets</b>	5.0%		4.7%	
Equities	5.5%	23,504	5.3%	22,498
Bonds	3.9%	2,971	3.4%	3,049
Gilts	3.0%	1,008	2.2%	1,078
Property	5.5%	179	5.3%	–
Cash	0.5%	828	0.5%	411
Annuity policies	4.5%	7,197	4.0%	8,568
<b>Total market value of Plan assets</b>		<b>35,687</b>		<b>35,604</b>
Present value of scheme liabilities		42,795		47,523
<b>Net pension liability</b>		<b>(7,108)</b>		<b>(11,919)</b>

\*The expected return on assets is a weighted average of the assumed long-term returns for the various asset classes. The assets do not include any investment in shares of the Employer.

### Reconciliation of present value of scheme liabilities

	Value at 31/03/2014 £'000	Value at 31/03/2013 £'000
<b>1 April</b>	47,523	38,212
Current service cost	1,488	1,023
Contributions by Plan participants	240	233
Interest cost	1,908	1,799
Benefits paid	(1,373)	(1,104)
Actuarial (gain)/loss	(6,991)	7,360
<b>31 March</b>	<b>42,795</b>	<b>47,523</b>

### Sensitivity analysis of the scheme deficit

The sensitivity of the present value of the scheme deficit to changes in the principal assumptions used is set out below.

	Change in assumption	Impact on scheme deficit
Discount rate	–0.10%	883
Rate of inflation*	–0.10%	(500)
Rate of increase in salaries	–0.10%	(77)
Mortality	1% pa long-term rate of mortality improvements	(1,239)

\*Other assumptions linked to the rate of inflation are also assumed to change appropriately

## 22. Pension obligations – Group and Charity (continued)

### Reconciliation of fair value of scheme assets

	Value at 31/03/2014 £'000	Value at 31/03/2013 £'000
<b>1 April</b>	35,604	31,089
Expected return on assets	1,665	1,585
Contributions by the Employer	795	853
Contributions by Scheme participants	240	233
Benefits paid	(1,373)	(1,104)
Actuarial (loss)/gain	(1,244)	2,948
<b>31 March</b>	<b>35,687</b>	<b>35,604</b>

The expected return on Plan assets is determined by considering the expected returns available on the assets underlying the current investment policy less an allowance for expenses. Expected yields on fixed interest investments are based on gross redemption yields as at the balance sheet date. Equity returns are based on the selection of an appropriate risk premium above the risk-free rate which is measured in accordance with the yield on government bonds.

The actual return on Plan assets in the year was £420,000 (2013: £4,500,000).

### Analysis of the amount charged to the Statement of Financial Activities – operations

	Value at 31/03/2014 £'000	Value at 31/03/2013 £'000
Current service cost	1,488	1,023
Interest cost	1,908	1,799
Expected return on assets	(1,665)	(1,585)
(Gain)/Losses on settlements or curtailments	–	–
Past service cost	–	–
Effect of limit on recognisable surplus	–	–
<b>Total charge</b>	<b>1,731</b>	<b>1,237</b>

### Actuarial gains and losses

The cumulative amount\* of actuarial gains/ losses recognised in the SOFA is –£7,981,000 (2013: –£13,728,000)

\*includes actuarial gains/losses since 1 April 2002

### Actuarial valuation

The full actuarial valuation at 1 January 2013 showed an increase in the deficit from £2,791,000 to £4,744,000. It has been agreed with the Trustees that contributions to make good the deficit will be payable as follows:

- £236,000 on or before 31 December 2013;
- £500,000 on or before each 30 April 2014, 31 October 2014, 30 April 2015 and 31 October 2015; and
- £358,500 on or before each 30 April and 31 October in the years 2016 to 2020 inclusive.

**22. Pension obligations – Group and Charity (continued)****Amounts for current and previous four periods**

	2014 £'000	2013 £'000	2012 £'000	2011 £'000	2010 £'000
Defined benefit obligation*	42,795	47,523	38,212	25,084	23,202
Plan assets*	35,687	35,604	31,089	22,796	18,673
<b>Deficit</b>	<b>(7,108)</b>	<b>(11,919)</b>	<b>(7,123)</b>	<b>(2,288)</b>	<b>(4,529)</b>
Experience adjustments on Plan assets:	(1,244)	2,948	(864)	1,212	3,372
Experience adjustments on Plan liabilities:	6,991	(7,360)	(4,088)	353	(5,785)

\*The liability and asset values for years ending on or after 31 March 2012 include the value of annuity policies held by the Plan. These policies were not included in earlier accounting periods and these results have not been restated.

**Universities Superannuation Scheme (USS)**

The latest actuarial valuation of the scheme was at 31 March 2011 using the projected unit method. The assumption and other data which have the most significant effect on the determination of the contribution levels are as follows:

	Past service	Future service
Investment returns per annum	6.10%	6.10%
Salary scale increases per annum – short term	3.65%	3.65%
Salary scale increases per annum – long term	4.40%	4.40%
Pension increases per annum – for 3 years following valuation	3.40%	3.40%
Pension increases per annum – thereafter	2.60%	2.60%
Market values of assets at last actuarial valuation date	£32,434m	
Proportion of members' accrued benefits covered by the actuarial value of assets	92.00%	
Current Employers contribution rate	16.00%	

The Society has 3 active members and 3 deferred members within the scheme and details of the scheme can be found at [www.uss.co.uk](http://www.uss.co.uk)

USS is a "last man standing" scheme which means that in the event that another member institution becomes insolvent the other participating members will pick up any funding shortfall.

An interim valuation, effective June 2013, indicated that the deficit had widened to £7.9bn.

### 23. Subsidiary undertakings

The Society owns 100% of the £1 called-up and issued share capital of The Royal Society Enterprise Fund Limited. The principal activity of that company is providing advice to the Society in its application of the Enterprise Fund. The Company traded exclusively with the Society in the period ended 31 March 2014.

The Society also owns 100% of the £1 called-up and issued share capital of Royal Society Trading Limited. Royal Society Trading Limited has been set up to process the activities that occur at Chicheley Hall.

The Society also owns 100% of the £1 called-up and issued share capital of The Royal Society (London) Ltd. The Royal Society (London) Ltd, incorporated on 10 December 2013, has been set up to process certain trading activities that occur at Carlton House Terrace and has had no activity in the year.

#### Results of the Royal Society Enterprise Fund Limited Period Ended 31 March 2014:

	2014 £'000	2013 £'000
Trading income	1,039	496
Cost of sales	(1,039)	(496)
<b>Result for the period</b>	<b>–</b>	<b>–</b>
Total funds brought forward at 1 April	–	–
<b>Total funds carried forward at 31 March</b>	<b>–</b>	<b>–</b>

The Royal Society Enterprise Fund Limited has Called up share capital of £1.

#### Results of the Royal Society Trading Limited Period Ended 31 March 2014:

	2014 £'000	2013 £'000
Trading income	1,331	695
Cost of sales	(1,678)	(513)
<b>Gross (loss) / profit</b>	<b>(347)</b>	<b>182</b>
Administrative expenses	(51)	(48)
<b>Operating (loss) / profit</b>	<b>(398)</b>	<b>134</b>
Interest on loan account	(10)	–
Charitable donation to the Royal Society	–	(134)
<b>Result for the period</b>	<b>(408)</b>	<b>–</b>
Total funds brought forward at 1 April	–	–
<b>Total funds carried forward at 31 March</b>	<b>(408)</b>	<b>–</b>

**23. Subsidiary undertakings (continued)****Balance Sheet of the Royal Society Trading Limited Period Ended 31 March 2014:**

	2014 £'000	2013 £'000
<b>Fixed assets</b>		
Assets under construction	–	9
<b>Current assets</b>		
Stock	19	–
Debtors	150	196
Cash at bank and in hand	361	483
	<b>530</b>	<b>679</b>
<b>Creditors:</b> amounts falling due within one year	(938)	(688)
<b>Net Current Liabilities</b>	(408)	(9)
<b>Net Liabilities</b>	<b>(408)</b>	<b>–</b>
<b>Capital and reserves</b>		
Called up share capital	–	–
Profit & loss reserve	(408)	–
<b>Shareholders' funds</b>	<b>(408)</b>	<b>–</b>

The Royal Society Trading Limited has Called up share capital of £1.

The Royal Society (Australia) Pty Limited is the Trustee of the Royal Society Theo Murphy (Australia) Fund. It is an Australian company the shares of which are owned by the Society.

**24. Other funds – Group and Charity**

	2014 Investment Market Value £'000	2013 Investment Market Value £'000
<b>The Society is the beneficiary of the following funds:</b>		
<b>Curl Fund</b>	119	119
The investments for this fund are held and managed by the New Zealand Public Trust Office		
<b>Horace Le Marquand and Dudley Bigg Trust</b>	493	474
The investments of the permanent endowment of the Trust are held and managed by Rensberg Sheppards. The Trustees are Investec Trust (Jersey) Limited.		





Image  
Royal Society Summer  
Science Exhibition 2013.



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, as it has been since its foundation in 1660, 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 emphasise its commitment to the highest quality science, to curiosity-driven research, and to the development and use of science for the benefit of society.

These priorities are:

- Promoting science and its benefits
- Recognising excellence in science
- Supporting outstanding science
- Providing scientific advice for policy
- Fostering international and global cooperation
- Education and public engagement

**For further information**

The Royal Society  
6 – 9 Carlton House Terrace  
London SW1Y 5AG

**T** +44 20 7451 2500

**W** [royalsociety.org](http://royalsociety.org)