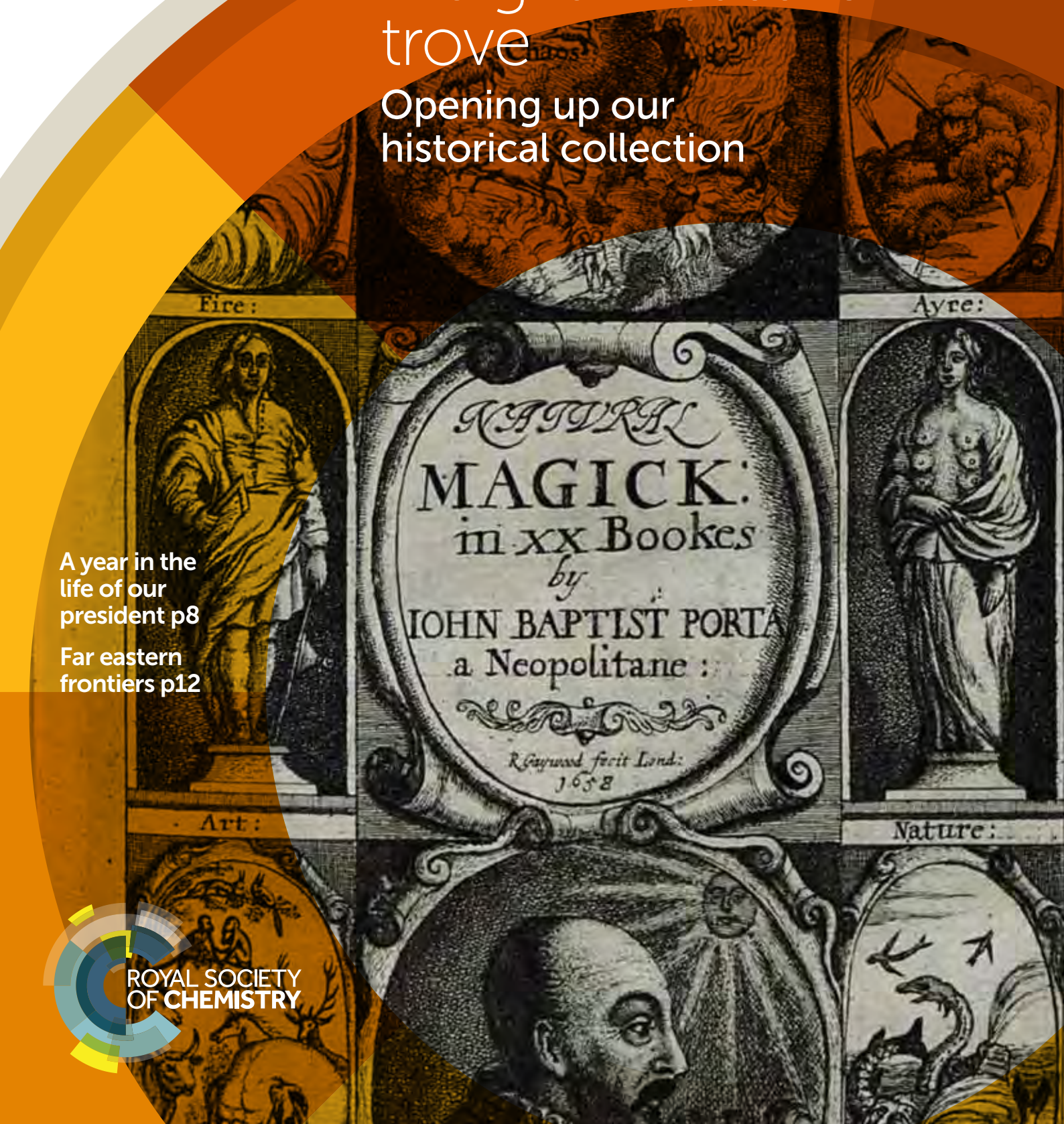
RSC NEWS

AUGUST 2015 www.rsc.org

A digital treasure trove

Opening up our historical collection



ROYAL SOCIETY OF CHEMISTRY

▲ ▶ **Bill Bryson Prize 2015**
Winners and runners-up gathered at the Royal Society of Chemistry's Burlington House to celebrate the brilliant creativity of this year's entries. (See p5 for the full story).

◀ **Emerging Tech winners**
David Fairen-Jimenez (pictured, centre) collects the Emerging Technologies final first prize in Materials for his University of Cambridge team's idea of metal-organic frameworks manufacturing technology for gas storage. (See p4).

▼ ▶ **Salters Festival fun rolls on**
12 schools took part in the Salters Festival at Truro College – more than 120 primary students from local schools were fascinated by science, watching Peter Wright's fantastic demonstrations, including lying on a bed of nails and a bin full of exploding teddy bears!

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Contents

AUGUST 2015

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FEATURES

DIARY

THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2013

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Snapshot

A look at the latest news from around the world

INBRIEF

Nominate a chemist for the top 100 practising scientists list

The Science Council is compiling a list of the 100 leading practising scientists in the UK. It's an updated version of the 2014 list, compiled in partnership with member organisations, and you are being asked for your suggestions of the best professional scientists working in the UK today.

The scientist may fall into the category of investigators, teachers, communicators, policy makers, business scientists, or more. The top 100 list, to be published in 2016, will celebrate new talent as well as affirming those still leading the professional practice of science in the UK. You are encouraged to take part to recognise scientists who lead in their profession, in the economy, and in wider society.

Nominations are open until 1 September and you can see the judging criteria and fill in the form, explaining why your nominee is exceptional, on the Science Council website **www.sciencecouncil.org**

100 Scientists
Celebrating UK practising scientists

Beilby Medal and Prize

Professor Benjamin Wiley of Duke University has won this year's Beilby Medal and Prize. Professor Wiley was recognised for his pioneering contributions to the field of metal nanowires, including the demonstration of the use of copper nanowires as a low-cost transparent electrode for solar cells. The Beilby Medal and Prize is awarded in conjunction with the Institute of Materials, Minerals and Mining (IOM3), and the Society of Chemical Industry (SCI).

IMAGE COURTESY OF BENJAMIN WILEY

Emerging Tech 2015
Showcasing innovation

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▲Healthcare winners Haemostatix Ltd collect their prize from our industry manager, Steve Pleasance and, far right, Sherry Coutu CBE, serial entrepreneur.

There was a touch of showbusiness to the 2015 Emerging Technologies showcase as the best of healthcare, energy, sustainability, and materials technologies won prizes at a black tie ceremony held in BAFTA, on Piccadilly. The winners were selected from 30 finalists from across Europe, following a day of pitches at Burlington House.

Now in its third year, the competition was extended to include small companies and academic entrepreneurs from nine countries outside the UK. Competitors from Denmark, Germany, Switzerland, and the Netherlands were among the 200 to pitch ideas varying from diagnostic flu tests using gold and sugars, electricity generation from wastewater and wearable energy harvesting fabrics, among many others.

Nottingham-based Haemostatix Ltd took first prize in the healthcare stream for their peptide dendrimer, which treats bleeding during surgery and trauma. In second and third place respectively, were the University of Cambridge, for their cancer therapy using artificial metalloproteins, and CytoFind Diagnostics, for their picoliter droplets for detection of circulating tumour cells.

In the Energy and Sustainable category, Ghent University, Belgium, won with its idea of a chemical pump for recovery of industrial waste heat. Second prize went to InfinityPV, from Denmark, for their ultra-thin foil-based photovoltaic device, and the National Institute of Chemistry in Slovenia was third for novel catalysis for syngas production.

The University of Cambridge were also winners in the materials section for metal-organic frameworks manufacturing technology for gas storage. The University of Leeds was second and Bridgend's Seren Photonics Ltd came third with GaN templates enabling next generation LED.

Each of the first prize winners won £20,000 along with tailored business support from our corporate partners. Second prize received £3,000 and third prize £2,000.

Chance is a fine thing
Bill Bryson prize celebration 2015

Creative young science communicators were celebrated at the 2015 Bill Bryson Prize ceremony at Burlington House on 7 July.

The theme for this year's competition was Chance in Science and the entries reflected on serendipitous discoveries as well as the science of chance itself.

Welcoming the students, their families and teachers, and members of the judging panel, Robert Parker praised the high quality of the more than 500 entries, commenting: "Some popular themes were things like the big bang theory, the discovery of penicillin and insulin, Darwin's theory of evolution, the chance of your eyes being a certain colour and even the possibility of alien life."

The Bill Bryson Prize is open to students around the world from ages 5-18, and there are three categories: ages 5-11, 12-14 and 15-18. Our judges were impressed by the quality of this year's entries, which included a home-made video game and even an app.

Best-selling author Bill Bryson presented the winners with their certificates, thanking the Royal Society of Chemistry for our 'heroic' efforts in running the competition.

He said: "I do think it's a wonderful thing that the RSC does this year after year. For a lot of us it's a very exciting initiative and I think it's a wonderful way of allowing kids to express themselves in imaginative and creative ways, in ways the national curriculum doesn't always allow them to do.

"Every single one of you who entered and made it on to a shortlist, is a huge achievement. As you heard, there were loads and loads of entries and I think it's safe to say that this was the highest level of quality that we've had in all ten years – it does seem to get better and better and the kids just get more and more imaginative, clever, entertaining and enthusiastic each year.

"It's the variety that is so exciting about it and you realise in doing this, as I do year after year, that there are so many delightful ways of expressing an enthusiasm for, and an excitement about, chemistry and what it does for us – and how it answers all the questions that we have."

William, 8, from Polwhele House in Cornwall won the junior section for his video presentation of Science News. The intermediate winner was 13 year-old Eleanor from Newcastle-under-Lyme School in Staffordshire for her short story with illustrations *The Chance Café or A Tale of Serendipity*. The senior winner was Josie, aged 18, from Bilborough College in Nottingham with her poem *Half life*, which was written from the point of view of Schrodinger's cat.

The overall winners were 13 year-olds Abie and Safia from Royal Masonic School for Girls in Hertfordshire, for their video What Are The Odds?, examining a human's terrifyingly slim chances of survival.

▼Bill Bryson and this year's overall winners, Abie and Safia.

INBRIEF

Celebrating the buckyball

Partnering with the Royal Society, we convened a special symposium to celebrate the thirtieth anniversary of the publication of the seminal paper on the discovery of the Buckminster fullerene.

The two-day event Fullerenes, Past, Present and Future reflected on the discovery by Robert Curl, Sir Harry Kroto, and Richard Smalley and its impact in triggering nanoparticle and nanocarbon research around the world. The symposium also marked the return of Sir Harry and his wife Margaret to live in the United Kingdom following a decade in Tallahassee at Florida State University.

Sir Harry presented on the topic of the C60 fullerene in interstellar space, which he cites as one of the highlights of fullerene research in the past 30 years.

"I've most enjoyed seeing that C28 is also special, that C60 is used in solar cells, and that C60 is found in space," he said.

"That the molecule could be found floating freely in space lends useful support for the fundamental value of 'Blue Skies' or perhaps more accurately 'Black Skies' cross-disciplinary research," the former RSC president said in introducing his talk at the symposium.

"I am pleased to be celebrating the anniversary of the discovery," he added.

"We knew from the start that fullerenes would be important in chemistry and astrochemistry and I hope in the future that C60 will be used in medical applications." Fourteen international experts participated in the event – with a mixture of recollections of the discovery of fullerenes, the effect it had on their research, and their current research activities. The format allowed for lively interdisciplinary discussion as well as individual presentations.

Expanding Spec in a Suitcase

For over three years, the Royal Society of Chemistry and the National Science Academy Wales (NSA) have jointly funded Spectroscopy in a Suitcase (SIAS) in Wales, supporting teachers and inspiring their pupils with real life analytical techniques. The NSA support has enabled us to introduce nuclear magnetic resonance (NMR) technology to the SIAS programme. We are excited to announce that NSA has agreed to support the expansion of our SIAS programme over the next three years. This enables expansion across Wales, bringing workshops to previously unreached areas around Wrexham. It will also enable us to develop a Spectroscopy Day, delivering high quality activities across Wales.

One to one

Take advantage of a wide range of member services

Book in for bespoke careers advice

Booking a consultation with one of our careers specialists is an excellent way to begin and maintain career success, wherever you are in your professional life. A one-to-one consultation is an opportunity to get professional advice about your specific work goals or concerns. You may be looking for ways to perform well in your existing job so that it yields further opportunities – like a promotion.

Perhaps you would like some advice about professional development planning and the benefits of professional recognition (CChem and many more) or how to present your experience more effectively on paper and online. Depending on your particular need our consultants will help you define and achieve your goal.

As a member of the Royal Society of Chemistry you are entitled to free appointments with our careers consultants, who are professionally qualified and have a broad knowledge of the labour market. Our consultants' experience spans SMEs, large corporations, educational institutions and self-employment. The members they meet include employers, employees, consultants and those currently out of work. Specialist professional advice is available if you are facing redundancy or if you are returning to work after a career break.

Where are the consultations based?

Our consultations take place regularly in Cambridge and central London. We are also available on selected days in other cities across the UK to make it more convenient for members to book an appointment locally. There are six cities our consultants will be visiting later in 2015.

- Edinburgh 21-23 September
- Bangor 12-13 October
- Liverpool 13-14 October
- Leeds 26-28 October
- Manchester 16-18 November
- Durham 23-25 November

If you prefer a phone or Skype consultation we are available from 7.30am to 7.30pm (UK time, on selected weekdays) by appointment.

There is also an e-advice service which is available wherever you are in the world. Email **careers@rsc.org** with your query.

Booking an appointment

You can book an appointment with one of our careers consultants by emailing **careers@rsc.org**. We will get back to you within five days to set up a time to suit you.

The consultation process

Prior to your consultation we ask you to complete a short survey to tell us, in your own way, about your career. Along with a current CV, this allows us to understand a bit more about your background, current situation and aspirations, so that we can make the most of the consultation time.

Consultations are informal – we work with you on what you want to cover and guide you in finding practical solutions. A consultation does not mean the end of our support – we will follow up with you by email and you are welcome to stay in touch with us or even to book a further consultation if you wish.

If you'd like to find out more, or to book a consultation straight away, please get in touch. We look forward to hearing from you.

Your feedback

From our last member survey we learnt that you regard support for your career as the second most important reason for joining the Royal Society of Chemistry. One of the many ways we are committed to achieving this for you is by providing tailored one-to-one professional advice. We connect you with the right learning, training and Continuing Professional Development to secure the chemical science talent pipeline.

We welcome feedback to improve our service and we often receive anecdotal comments from members on their experience, such as: 'I am not currently looking for work but it was helpful to have the opportunity to thoughtfully consider possible options to further my career and run ideas past someone.'

For more information about our Career Management Service, booking a consultation or getting some online professional development, visit **www.rsc.org/careers** or contact **careers@rsc.org**

Profile

A closer look at our members and their interests

Geraint Morgan FRAS MRSC works in the Department of Physical Sciences at The Open University

Geraint Morgan

Taff Morgan has worked on projects from the bottom of the sea to the top of the atmosphere, and from the ice of Antarctica to the ice of comet 67P/Churyumov–Gerasimenko

Q Why did you get involved in chemistry?

A My father was a biologist, so I grew up with science and always enjoyed it. I ended up studying chemistry at the University of Leicester.

Q How did you enjoy chemistry once you decided to study it?

A I'm colour blind so I can't do titrations and it was also a disadvantage in synthesis. In my final year, I did a project on micro-emulsions using UV spectrometry so I moved towards using numbers and physical chemistry. My PhD was a Collaborative Awards in Science and Engineering studentship, funded by Dow Corning, applying Gas Chromatography Mass Spectrometry to study the kinetics during the pyrolysis of organosilicon compounds.

Q What happened once you completed your PhD?

A Ironically, by concentrating on my PhD submission and viva I missed all the traditional academic post-doc post applications and so I ended up having a gap year. I was given some work at the university when I saw a job advertisement for The Open University. At the time, I had quite an old fashioned view of the OU. However, my old boss encouraged me to apply for the job – as it was with Prof Colin Pillinger FRS. The job was to develop a sampling system for measuring the stable isotope composition of various sources of atmospheric methane. During his PhD, Andrew Morse had developed a system to determine the deuterium/hydrogen ratio in extra-terrestrial water present in meteorite and lunar samples by converting it to methane. Colin had the idea and got the funding for a three-year project to analyse methane directly – to constrain its global budget as a global warming gas.

Q Were you always destined to work on space projects?

A Andy and I worked on a really wide range of things. Our PhD student projects ranged from taking air samples in a Hercules aircraft, to ice cores from Antarctica, to studying peat bogs in Wales and termite mounds in Cameroon. Colin and Prof Ian Wright, in partnership with Rutherford Appleton Laboratory, then submitted Ptolemy as a candidate instrument for inclusion on Rosetta. Ptolemy was selected by ESA for the Philae lander, funding was secured and the system was designed, built and tested over six years, ultimately being delivered in the Summer of 2001. While Rosetta was still in the pipeline, I went to work on the Gas Analysis Package (GAP) for the Beagle 2 mission to Mars. It was the miniaturisation of a lab instrument from the size of a family car to the size of a large shoebox. On Christmas Day 2003 when we were due to land on Mars we thought we had failed because, as everyone knows, we never heard from the lander. Now in the past year we have seen images of Beagle 2 on the Martian surface. We may have done entry, descent, and landing successfully but we don't know for sure. It looks like the deployment didn't work but it seems like it did most of the job. I did a fair few radio interviews when it was found. I kept being asked: "what would Colin have said?" – "I bloody told you so," I think.

Q With Comet 67P now approaching perihelion (its closest point to the sun), Ptolemy must be very exciting now?

A It is – it has been a long and eventful journey getting here. Going back to January 2014, when the Rosetta spacecraft woke up from hibernation, we had to wait until April to know if Ptolemy had woken up successfully. We were also in Germany at the Lander Control Centre for the comet landing last November. Ulrika and Peter, our colleagues from the German Space Agency, who built Philae, were there and it was the first time I had seen them since launch. We landed and bounced straight away. The MUPUS team could see we were spinning and couldn't be on the comet surface. However, we got our data back within about fifteen minutes of the first bounce. We knew what we expected to see and we saw it. So that was great. Fred, from the COSAC instrument was still waiting to see if he'd got data while we were jumping up and down. I'm pleased to say after a few minutes he too got fabulous data. Having worked on Beagle 2 and not had a signal, to get the data back was just fantastic. With the lander back in contact over the summer, we have to see if we can sustain communications to do some more science, but it's been a wonderful mission with wonderful people.

"In my final year, I did a project on micro-emulsions using UV spectrometry so I moved towards using numbers and physical chemistry."

A year in the life

© JOHN ROGERS / PA

Since becoming our president in July 2014, Professor Dominic Tildesley has clocked up thousands of miles on our behalf, from Lausanne to London and from Manchester to Mumbai. Dominic speaks to Lynsey Thorpe, from our communications team, about being president of the Royal Society of Chemistry and what it means to him

"I've said before that being a member of the Royal Society of Chemistry has been a very important influence in my life and career since I joined in the early 1970s, as an eager young undergraduate student at the University of Southampton. I've been a member in one way or another ever since, so becoming president is an incredible honour and I have had enormous pleasure and satisfaction from the role over the last year."

As an ambassador for the Royal Society of Chemistry you visit many different countries and interact with a wide range of people. How would you describe the RSC's reputation around the world?

"In the last year, I have had the chance to visit chemical societies and chemists in India, Saudi Arabia, Brazil and the USA. During these travels, I have been fortunate enough to see first-hand the very many fascinating projects our staff and members are involved in around the world.

"I have also represented our community at events throughout the UK, from local section meetings and our General Assembly, to Parliamentary events, a degree ceremony at my former chemistry department in Southampton, as well as visiting the US for the ACS Fall conference.

"Another real highlight was leading a delegation to Mumbai, Hyderabad and Bangalore, including meeting Yusuf Hamied, who is backing our inspirational chemistry education campaign in India so generously.

"Wherever I have travelled as president of the Royal Society of Chemistry, I have been met with huge enthusiasm and positivity for our work. Chemists everywhere talk about the quality of our publications, the importance of our accreditation schemes and our support in skills development and training. While that should come as no surprise considering the inspirational projects we are involved in, it is no less encouraging to personally witness the impact our community can have. We truly are the world's leading chemistry community."

When you became president you explained that your priorities included focusing on encouraging innovation and growth in industry.

"I think it's important to remember that more than a quarter of our members work in industry, so I take a personal interest in our commitment to increasing support for, and engagement with, the UK chemical sciences industry.

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"We're already actively involved in the UK Government's industrial growth strategy for the chemical sciences sector, and the Government-funded and employer-led Science Industry Partnership which aims to increase the number of apprenticeships in industry.

"I'm also delighted that more than 250 companies have joined as EnterprisePlus members, our dedicated service for R&D based chemical science companies, which gives them access to training and resources such as internships and apprenticeships. I was also privileged, just a couple of weeks ago to host, in this building, the final of our Emerging Technologies Competition. 30 chemical science and technology startups pitched to panels of expert judges with their ideas in healthcare, energy and sustainability, and materials. Three companies each won £20,000 and a tailored package of business support including mentoring from larger companies – that's a boost to a young company that money simply can't buy."

Over the past year, what are some of our achievements you're most proud of?

"I've been hugely encouraged by the Public Attitudes to Chemistry research. It's important to have evidence for the work we do, so commissioning a thorough, in-depth study on how the UK public really thinks and feels about chemistry is a vital first step. And the chemistry community should be quite happy because public perception of chemistry, chemists and chemicals is more positive than we expected.

"The survey shows that there is no strong negative feeling towards chemistry, but that there is something of a void in people's engagement with chemistry and their understanding of what it does.

"We need to continue to tell positive and engaging stories and work to fill that void in people's understanding about what chemistry is and what it does for the world. Our community should now have the impetus to look at the research and use the Communications Toolkit to think about how they can shift attitudes by changing the way they communicate with different audiences.

"One positive side to this is the work that the Royal Society of Chemistry does with young people. I was delighted to take part in the Chemistry World Competition where young chemists inspired us all on the theme of Chemistry and Art. It was also great to see our work with Bill Bryson to award the prizes for creative scientific writing to youngsters from 7 to 18.

You have said that diversity is "something we cannot allow to come and go as presidents come and go". A year on, what are your reflections on the progress the Royal Society of Chemistry has made?

"I'm proud that the Royal Society of Chemistry is embedding inclusion and diversity across all of its activities and I've seen first-hand at our local section events how our member networks colleagues can give advice about what to consider when organising activities for and discussions on how to attract new members.

There are a number of other excellent examples of this work, not least the 175 Faces of Chemistry initiative, launched by my predecessor as president, Lesley Yellowlees. There are now 140 profiles online and we hope these inspire others.

"Another excellent idea, aimed at removing barriers to career progression, is the annual Joliot-Curie Conference that we organise to explore and support chemists in the early stages of their career. I am also delighted by the recent elections to the Royal Society of Chemistry Council, in which four of the five new members are outstanding women chemists from very diverse backgrounds. "

What message would you like to give to employees and members?

I think we should all take enormous pride in the fact that we are members of a highly successful community. This should give us the energy to redouble our efforts to drive excellence in the chemical sciences. Finally, I hope that we all continue to gain pleasure and satisfaction from the many diverse friendships and relationships that we make through our membership.

What can you tell us about living in Switzerland and your role at the European Center for Atomic and Molecular Computation?

"I've always wanted to live abroad. I spent all of my working career as an academic and in Unilever in the UK, so going to Switzerland was a real adventure for me. And it's a delightful place to be. First of all I'm in Lausanne, which is the French-speaking part of Switzerland – it's extremely beautiful, by Lake Léman.

"I happen to be working at the EPFL, the École polytechnique fédérale de Lausanne, which is becoming one of the top universities in Europe, so it's a wonderful place to be.

"I work for an organisation called CECAM, which is the Centre Européen de Calcul Atomique et Moléculaire. That's really about thinking how simulation and modelling can be used to make advances in chemistry and physics and biology, so it's a job that is very well suited to me and I love it very much."

WORDS
LYNSEY THORPE

Below from left to right: Dominic speaking at one of our 2015 regional meetings; celebrating a partnership with Chinese officials at Burlington House; speaking at a joint Westminster event with the Institute of Physics and meeting the new chair of the Parliamentary Science & Technology Select Committee, Nicola Blackwood MP. Above left: Dominic was awarded a CBE for services to science, technology and business.

A digital treasure trove

Dating back to 1505, the Royal Society of Chemistry Historical Collection is both a treasure trove of early writings on alchemy, chemistry, medicine and general science, and a fascinating source of inspiration and reference for scientists today

Featuring a wealth of historical items, the collection charts the development and evolution of chemical sciences from the 16th to the 20th century, as well as the publications of learned chemical societies.

Now, for the first time, the historical collection will be launched online as a new digital archive. The archive contains nearly a million pages of content and more than 3,000 items, including books, journals, letters, lecture notes, pamphlets, monographs, meeting minutes and magazines.

The collection is split into two parts, Society publications and minutes and historical papers. The earliest piece *De Secretis Mulierum* (1505) was a grossly inaccurate representation of women and human reproduction written to instruct celibate medieval monks on the facts of life.

There are many well-known works including Robert Boyle's *Sceptical Chymist* (2nd ed, 1680) in which he argued elements were not limited to the classical four of earth, air, fire and water. The archive also holds the first English edition of the collected works of prominent German-Dutch chemist, Johann Rudolf Glauber, who discovered sodium sulphate in 1625.

Also featured is the entire archive of *Chemistry in Britain* (1965-2003), launched from the Chemical Society and the Royal Institute of Chemistry's merged publications, and rebranded as *Chemistry World*.

"With printed materials dating back to 1505 – covering the chemical sciences, reaching back to alchemy, across to medicine and forensics and explosives – the Royal Society of Chemistry's unique historical collection has previously only been accessible by visiting the library (at Burlington House) in person," explains David Allen, library collections coordinator. "This project now enables people to access the collection from anywhere in the world. It also means that the physical items are preserved electronically and the likelihood of further deterioration is substantially reduced."

Notable collections include one donated by Sir Henry Roscoe to the Chemical Society in 1906. They comprise items on alchemy and early chemistry, notes on solar chemistry, lectures and an array of letters between Roscoe and his peers. Colonel Frederic Lewis Nathan bequeathed the Nathan Collection featuring books, pamphlets and posters on explosives and firearms dating from 1598 onwards.

The digitisation project manager, Simon McKeating, adds: "Digitising so many rare and unique items greatly increases access to the important history and development of our science, as well as helping ensure their preservation. This collection shows how far we have come, and puts modern research into context."

The collection is available through institutional subscription and free to access for all our members.

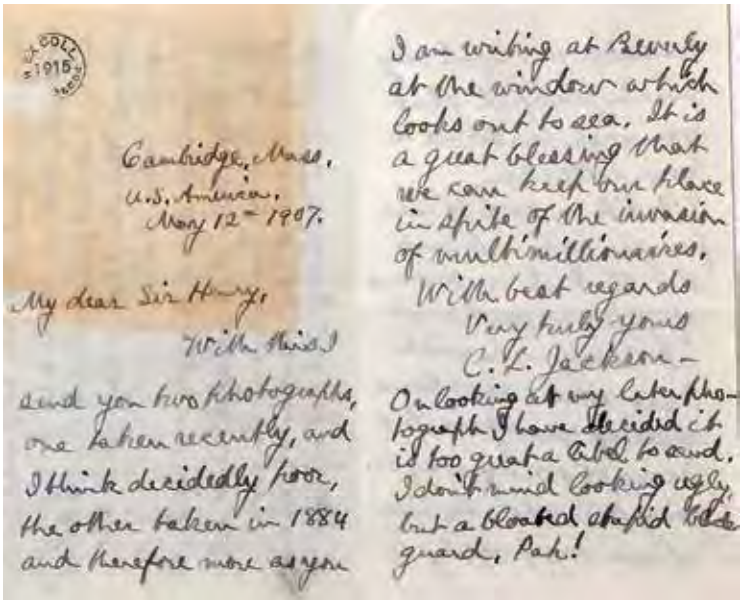
WORDS
ALEX JACKSON

With thousands of intriguing items documenting the evolution of the chemical sciences, we asked David Allen, our library collections coordinator, to make the unenviable choice of hand-picking some items that really stand out to him.

The Roscoe Collection

For me some of the most fascinating items lie in the collection of letters Sir Henry Roscoe sent to his contemporaries. We have more than 200 in the archives including correspondence with Robert Bunsen, Michael Faraday and Louis Pasteur.

Some of the authors write about their research in detail but the majority are letters full of small talk that show how little people change in what they communicate about. When sending photographs to Roscoe, C L Jackson from Massachusetts wrote in 1907 about the difficulty he faced when travelling to Europe, due to family circumstances, as well as the influx of millionaires raising house prices in his area. In his postscript, he says that he decided not to send one of his photographs because 'I don't mind looking ugly, but a bloated stupid background, Pah!'



Main Collection

Natural Magick (or its original Latin title of *Magia Naturalis*) was first written by 15 year-old Giambattista della Porta in 1558 and expanded over his lifetime into a collection of 20 books. We have digitised the English revised edition translated in 1658; the books contained are observations on the natural world on topics including 'The Generation of Animals', 'The Changing of Metals' and 'Of the Chaos'.

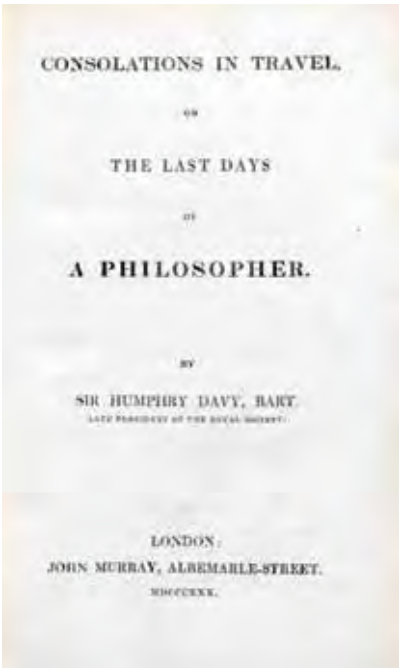
The author makes the distinction between harmful magic, i.e. sorcery, and the magic of the natural world which we would now think of as science. Chapter VII in 'Of the Chaos' tackles the subject of 'How one may so alter his face that not so much as his friends shall know him' including 'How to dye the flesh' and 'To add or take of hair'. Chapter XVII in 'The Generation of Animals' examines 'How we may produce new and Strange Monsters' including 'A chicken with four wings and four feet'.

Davy Bookcase

The Davy Bookcase is a collection of books formerly owned by Cornish chemist and inventor Sir Humphry Davy, John Davy and Lady Davy. One of the items, *Consolations in Travel* by Sir Humphry Davy was published posthumously in 1830. The editor chose not to change much of Davy's original text preferring to keep a faithful edition resulting in a thoughtful and philosophical expression on disparate themes. In his fourth 'Dialogue', Davy wrote on his thoughts of returning to London:

'In my youth, and through the prime of manhood, I never entered London without feelings of pleasure and hope. It was to me the grand theatre of intellectual activity, the field of every species of enterprise and exertion, the metropolis of the world of business, thought, and action. There I was sure to find the friend and companions of my youth, to hear the voice of encouragement and praise....

'I now entered this great city in a very different tone of mind, one of settled melancholy.... My health was gone, my ambition was satisfied, I was no longer excited by the desire of distinction; what I regarded most tenderly was in the grave, and to take a metaphor, derived from the change produced by time in the juice of the grape, my cup of life was no longer sparkling, sweet, and effervescent; it had lost its sweetness without losing its power, and it had become bitter'.


CONSOLATIONS IN TRAVEL.

OR

THE LAST DAYS

OF

A PHILOSOPHER.

BY

SIR HUMPHRY DAVY, BART.

LONDON:

JOHN MURRAY, ALBEMARLE-STREET.

Far eastern frontiers

Our recent series of organic chemistry symposia, hosted to great acclaim in partnership with Japanese institutions, highlights our efforts to create lasting international collaborations. Nozomi Saito, assistant professor at Tohoku University and speaker at one of those symposia, gives us an insight into her life in science

Far removed from the throbbing hum of metropolitan Japanese centres in Tokyo or Osaka, Yamagata prefecture is, by comparison, sparsely populated but plentiful in unspoilt scenery, ancient temples and mountains. Sometimes described as 'hidden' Japan, it has very few English speakers, a strong local dialect and is home to the picture-perfect Okama Crater Lake, whose highly acidic waters change colour throughout the year.

A cluster of young scientists is springing from this northern part of Japan, including Nozomi Saito. The first in her family to study science, Nozomi – now in her early thirties – has already become a role model for young female researchers in Japan. She explains that, as a young child, her first brushes with nature inspired her to become a scientist.

"It was a summer holiday homework project – I remember it well", she says. Perched by the side of the river, I was analysing these tiny creatures with a small optical microscope, a gift my grandfather had given me to carry out my research."

Shifting perceptions

Unlike many of her peers, Nozomi was immediately hooked and pursued her natural curiosity for science through to university. "I don't think science was very popular in primary or high school. It was seen as a difficult subject area that many did not choose to study at university. I sometimes lost my enthusiasm too, as I struggled at times to see how chemistry or science could relate to the real world," says Nozomi.

It is a way of thinking which Nozomi hopes has shifted in Japan as scientists improve how they communicate science's importance to modern society. She also hopes their education system will cultivate young people's curiosity about science and give them the volition to think more independently.

Nozomi chose chemistry ahead of her other two passions: maths and physics, receiving her BSc (2007) and PhD (2012) in Chemistry from Tohoku University, where she is now an assistant professor.

It was her introduction to the laboratory and a helical molecule that spurred this enthusiasm, to discover the mysteries of natural systems and to create new molecules and materials. "Chemistry is the real basis of everything and underpins all science," says Nozomi, who was a Japan Society for the Promotion of Science fellow from 2009 to 2012. "I found it quite captivating to create new molecules and always exciting to present the results."

Different cultures

Her research interests centre on the synthesis and properties of chiral molecules and functional large molecules, as well as the development of hierarchical self-assembly systems with mechanical function. During her PhD, she explains, she was fortunate enough to spend one month in Beijing in the laboratory of Professor Deqing Zhang, at the Institute of Chemistry, Chinese Academy of Sciences.

"I was in China as part of an exchange programme and soon learned how different both the research procedures and the customs were to back home," declares Nozomi. "It was interesting to collaborate with people who had very different ways of thinking and learn new techniques to synthesising molecules."

Nozomi has worked in the same laboratory since she was a student, which she says is not rare in Japan, although quite different from many western countries where more researchers actively move around. In recent research by *Nature*, Japan had the lowest percentage of researchers working in foreign countries.

"Science is definitely growing in Japan and more research is coming out from the laboratories and having more of a global impact," says Nozomi. "Government funding is improving and activities to show how important and interesting science is, are spreading across the country. We are working hard as a nation to improve how we show the results of research to the public."

Improving statistics

Figures released by UNESCO Institute for Statistics on numbers of female researchers in Japan, show Nozomi as quite a rare figure; they are significantly one-sided, 86% male to 14% female. It is a pattern she is used to and argues needs to change. Research shows that while many women are enrolling in university, relatively few are pursuing careers in research.

"When I was an undergraduate there was a fairly healthy split, but by PhD level there were almost no female students left. It is very male-dominated, especially in chemistry," says Nozomi. She believes that many of her undergraduate peers were interested in organic chemistry but were put off, essentially by the long hours and lack of work/life balance.

WORDS
ALEX JACKSON

© NOZOMI SAITO

▲Nozomi Saito (back row, second from right), with her colleagues in the Yamaguchi Lab at Tohoku University.

"There needs to be a much more flexible system in the laboratory that encourages family life and is willing to offer a better balance," argues Nozomi. "It is such a difficult area of debate, as it's hard to share projects because they need specialist skills, and this can often lead to long hours which many either hate or even quit their job as a result of."

Showcasing research

Nozomi took part in the Tohoku University leg of the Royal Society of Chemistry's organic chemistry symposia in early June, which also visited the University of Tokyo and Kyoto University. The symposia saw an array of speakers from 11 Japanese institutes – including 12 early-career researchers – present their findings and debate science with more than 300 people.

With more than 400 members in Japan, the Royal Society of Chemistry's activities are constantly growing in the country. "The symposium was a really good chance to meet high profile professors both from Japan and foreign countries, as well as early career researchers," says Nozomi. "It's motivating to hear both young and mature scientists talk about their research and receive sharp opinion and challenging questions. I always meet interesting people and it's important to share knowledge and enthusiasm in these environments."

For Nozomi Saito, that enthusiasm can be traced to the day she was given a microscope. She hopes many more young people will have those initial experiences in science and follow in her footsteps. "It is about bringing that excitement and interest to life in class and through experiments," concludes Nozomi. "The more we can change the way it is taught and encouraged, the more likely young children are to experience that thrill of discovering new things".

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Opinion

Letters and comments on RSC activities and issues

FROM THE EDITOR

I think this month's *RSC News* neatly encapsulates the breadth of our work in our community, past present and future.

From our cover to the feature on p10, we have a look back at some of the most fascinating contents of our new digital archive – it's a veritable treasure trove of chemical science stories and developments, stretching back hundreds of years.

On p8 we get an insight into what it's like to spend a year as president of the Royal Society of Chemistry. Dominic Tildesley has seen first-hand how far our partnerships and projects now reach, across the UK and internationally.

One of those partnerships is promoting collaboration and innovation in the chemical sciences in Japan – on p12 we hear from one of our new colleagues, with the story of her route into a career in science and some of the opportunities and challenges she faces.

Edwin Silvester
rscnews@rsc.org

RSC News welcomes letters, which should be concise (normally less than 300 words) and timely. Those selected for publication are subject to editing for clarity and length. Letters should be marked 'for publication'; letters are not routinely acknowledged. **rscnews@rsc.org**

You can also let us know your thoughts and comments via Twitter or Facebook.

@RSC_Newsrooom

facebook.com/RoyalSocietyofChemistry

Surprising and encouraging...

Dear Mr Silvester,

In response to your call for comments on the recent RSC survey, I offer you a few of my thoughts.

First of all, I must say that I found the results of the survey both surprising and encouraging.

I would like to offer the following rationale for the striking difference between the public's perception of chemistry and the opinion that chemists expect them to have.

I believe that, as chemists, we are especially able to critically appraise issues involving chemicals which appear in the media. Since these stories are often reported inaccurately or greatly exaggerating the risks to health and the environment, we view such reports with concern and believe the general public accept these reports, feeling that chemicals and chemistry are pretty bad news.

However, when one considers that the media generally report bad, rather than good news stories, I suspect that chemicals and chemistry probably feature no worse than other issues reported by the media affecting most other sectors of society.

Perhaps it is therefore all down to our possible hypersensitivity towards the reporting of chemical issues rather than the public having any real dislike of the subject.

Perhaps the main message, therefore, coming out of this is that, by whatever means, the general media should be encouraged to be more understanding and responsible in the way they report on chemical issues, in future, as they are doing a great disservice to chemists and casting unnecessary aspersions on what is a truly exciting, rewarding and challenging profession.

I hope you find these comments helpful.

Dr Phillip Lewis, (MRSC for over 50 years)
London, UK

Members of the public

I'm not a chemist. My wife is however, and I was flicking through the opinion pages in the July edition of the *RSC News* where the topic of the public's attitude to chemists and chemistry was being discussed.

I couldn't help but notice that it seems to have escaped most of your readers that they are in fact members of 'the public' as well as chemists.

Perhaps if there was less of an 'us and them' elitist attitude, 'public' perception would change...

Daniel Currall
Glasgow, UK

Thanks to Phillip and Daniel for their thought-provoking comments. This is clearly a topic we continue to to reflect and build on, so if you have any further thoughts on Public Attitudes to Chemistry, please do get in touch.

Edwin Silvester
Cambridge, UK

GradRIC

We recently received a letter jointly signed by Royal Society of Chemistry Fellows Dr Bruce Davison, from France, and Ralph Villiers, from Mexico. They raised an interesting point about professional recognition, which we put to our head of membership, Dr David Barr. Below we include our Fellows' letter, with responses from David

Dear Sir,

We should like to draw your attention to an anomaly that has arisen in your regulations and practice of designation and recognition of categories of membership of the RSC.

During the years 1940s to 1960s the Royal Institute of Chemistry, now subsumed into the Royal Society of Chemistry, offered an academic route into the chemistry profession. This was validated and controlled centrally by the RIC and its Examination Board which consisted of eminent chemistry practitioners. The courses were undertaken often in a part time mode at institutions of higher education usually by students who had started by following ONC and HNC/HND as well as A levels and were frequently taught alongside external university degree courses. Students following this academic line had to be Student Members of the RIC.

The courses were rigorous, of high academic standard ('good Honours Degree') and required exam success in all subjects including endorsement in other subjects such as physics, mathematics and a scientific language such as German as well as the core units of Organic, Inorganic and Physical Chemistry, all alongside practical examinations. In the final year the practical exam was four days long. Each element had to be passed for the final award. Success in this arduous route led to the academic qualification of GradRIC, a designation which was highly regarded academically e.g. in research environments, in the academic and commercial worlds and was even preferred to university qualifications in areas where the concomitant external experiences were deemed important.

DB – It is true that these courses were very rigorous and highly regarded by employers. We did in fact continue to provide the qualification until the mid-1990s. I actually taught these programmes at what is now called Anglia Ruskin University, in Cambridge during the early 1990s, so I remember the courses fondly.

Although this was an academic route it often clearly led to a life in the chemistry profession and those members with GradRIC who fulfilled sufficiently responsible professional criteria could be awarded Associate status (ARIC) and with professional progress Fellowship (FRIC). Thus there were two routes to these designations, the other being by election through application to the RIC by dint of professional standing. The accession to ARIC entailed the loss of GRIC and the overt link through the academic route.

Following the formation of the amalgamated RSC, the distinction between the academic and the career entry to membership was lost.

DB – The 'career entry' path has never really gone away. What changed was an expansion of UK higher education in the 1980s and resultant changes to employer practices. That included the move towards employing graduates rather than training up school leavers, a trend away from vocational education that is possibly only now beginning to change back.

The RIC courses were discontinued on or about the time of the formation of the new polytechnics, and entry into the membership of the RSC became professional only. This dropping of the GradRIC/GradRSC led to a form of de recognition of those members who had followed the academic route. This we find very concerning.

DB – They were discontinued because when polytechnics were given degree awarding powers, many decided to convert their GRSC programmes to BSc chemistry programmes. Students voted with their feet and decided a BSc degree was preferable to a course validated by a professional body. Many part time BSc degrees were accredited, thus maintaining the vocational route into our profession.

While there are fewer of your members left who did qualify in this way, we would urge you to give a form of recognition to those that remain, in respect of their academic achievements. Our suggestion would be for your Council to allow the use of the designation GradRSC.

DB – When our Charter and By-laws were amended in 2001, the Graduate category no longer existed. As such our Council would need to consult with the Privy Council to allow use of the designation GradRSC. In my view it would be unlikely to agree.

A further point is that, while successful candidates received a certificate and a congratulatory letter, no graduation ceremony took place. It would be a fine gesture on the part of the RSC to give belated recognition in the form of an award ceremony as well as allowing use of the designation. A possible course of action would be to invite applications from members who qualify by means of a poster in *Chemistry World* to attend an event in London.

We urge you to consider this matter taking into account the feeling of disenfranchisement that members in this position feel. We would ask you to refer to our letters to *RSC News* on this subject.

Yours faithfully,
Dr Bruce E. Davison FRSC
Ralph F. Villiers FRSC FTI

DB – We did introduce a ceremony at some point. I'm not aware of exactly when they started but I did attend one when I was teaching on these programmes in early 1990s.

I like the suggestion of some recognition. My thoughts would be to link it to some roll out of our vocational strategy/work, so this is definitely a point we will consider and I thank you for bringing this to my attention.

If you have any further feedback on this topic, please email **membership@rsc.org**

Diary

Your guide to all important events

IN THE DIARY

NOTICES

Northern Ireland's best young chemistry innovators 2015 (see p20).

Further information

To find out more about any event on this page, see **www.rsc.org/events**

Call +44 (0) 1223 43 2254/2380

Or email **events@rsc.org**

RSC conferences

Faraday Discussion

Chemistry in the Urban Atmosphere

6–8 April 2016
London, UK

Oral abstract submission deadline – 20 July 2015

This meeting will address the key questions and over-arching issues related to understanding chemistry in the urban atmosphere.

Submit your abstract now if you want to be considered for an oral presentation and the chance to showcase your research in one of four key themes:

- **Chemical complexity of the urban atmosphere and its consequences**
- **Timescales of mixing and of chemistry**
- **Urban case studies**
- **Numerical modelling strategies for the urban atmosphere**

Join us in London, April 2016 – register now

With the increasing urbanisation of human populations, the chemistry of the urban atmosphere – including air pollution in the context of human health and accurate numerical modelling – is growing in importance. Spaces for this meeting are limited and will fill up fast, so secure your place by registering online now.

http://rsc.li/atmosphere-fd2016

Joliot-Curie Conference 2015

16–17 September 2015
Murray Edwards College, Cambridge

Registration deadline – 6 September 2015

Building on the success of the last three years, the Joliot-Curie Conference 2015 is designed to raise aspirations of young chemists, particularly those underrepresented in chemistry research careers in academia or industry. With a range of panel discussions, interactive workshops and networking sessions, the conference provides information and support to enable you to overcome barriers to career progression.

Make the most of this highly interactive networking opportunity: submit a poster abstract based on your current research and get advice from experienced researchers on how best to present your poster.

Shape your future career in chemistry research: register now

The Joliot-Curie Conference 2015 is open to final year PhD students, post-doctoral researchers and other early career chemists from any UK or Republic of Ireland organisation. Registration and meals are free.

http://rsc.li/joliot-curie-2015

ANNOUNCING

Nanoparticles with Morphological and Functional Anisotropy (Faraday Discussion)

4–6 July 2016
Glasgow, UK

http://rsc.li/anisotropy-fd2016

DATES AND DEADLINES

Carbon Dioxide Utilisation (Faraday Discussion)

7-9 September 2015
Sheffield, UK

Final registration deadline: 10 August

http://rsc.li/cdu-fd2015

Challenges in Chemical Renewable Energy (ISACS17)

8-11 September 2015
Rio de Janeiro, Brazil

Final registration deadline: 10 August 2015

http://rsc.li/isacs17

Single- Molecule Microscopy and Spectroscopy

14–16 September 2015
London, UK

Final registration deadline: 17 August

http://rsc.li/molecule-fd2015

Supramolecular Photochemistry (Faraday Discussion)

15-17 September 2015
Cambridge, UK

Final registration deadline: 17 August 2015

http://rsc.li/photochemistry-fd2015

Challenges in Organic Materials and Supramolecular Chemistry (ISACS18)

19-21 November 2015
Bangalore, India

Poster abstract deadline: 7 September

http://rsc.li/isacs18

Events

ChemCareers 2015
19–23 October
Get ready for your perfect job
http://rsc.li/chemcareers
#ChemCareers

Further information

The *RSC News* Diary this month lists Royal Society of Chemistry events from August to September 2015 that are held on our conference database. Further details on any of these meetings can be obtained from the named contact or from our conference website at **www.rsc.org/events**

You can search events by name, date or keywords and have the option to browse by location, subject area and event type.

EASTERN

Mid-Anglia Section

Annual Retired Members Lunch

20 August
The Fielder Centre, University of Hertfordshire
Our guest speaker at the luncheon will be Gemma Wood who will give us an update on some of the current campaigns being run by the RSC's Membership Engagement Team. There will be a token charge of £10 for this event. Due to space limitations it will not be possible to bring guests.
Contact John O'Toole
+44 (0)1223 894174
john.otoole9@btopenworld.com

Other Events

Molten Salts Discussion Group
Summer Research Meeting

3-4 August
Fitzwilliam College, Cambridge
The meeting provides an opportunity for the community to disseminate and discuss the latest finding in the area in an informal, supportive environment. The MSDG are particularly keen to encourage early career researchers to participate. In keeping with tradition, the MSDG welcomes contributions concerning all aspects of MS/IL research and development.
Contact Andrew P Doherty
+44 (0)2890 974481
a.p.doherty@qub.ac.uk

Biological and Medicinal Chemistry Sector
18th SCI/RSC Medicinal Chemistry Symposium

13-16 September
Churchill College, Cambridge
The Symposium will focus on first disclosures and new strategies in medicinal chemistry and pharmaceutical research. The scientific programme features lectures and short talks across the full range of drug targets. There will also be poster sessions.
Contact Patricia Cornell
+44 (0)207 5981566
patricia.cornell@soci.org

Faraday Division
Supramolecular Photochemistry: Faraday Discussion

15-17 September
Downing College, Cambridge
This meeting aims to bring together top researchers and new entrants to the field to generate a vibrant atmosphere that will lead to new perspectives on supramolecular photochemistry.
Contact RSC Events
+44 (0)1223 434048
events@rsc.org

Joliot-Curie Conference

16-17 September
Murray Edwards College, Cambridge
With a programme of workshops, one-to-one consultations, and keynote speeches from world-renowned experts, the Joliot-Curie Conference seeks to raise awareness of research careers available and potential routes to access, provide information and support on issues that may act as barriers to choosing or progressing in a research career, provide opportunities for delegates to develop communications skills and increase their confidence when talking about and presenting their research and provide relevant information and tangible support during the event through targeted group discussions and one-to-one sessions. Final year PhD students, post-doctoral researchers and other early career chemists in academia or industry from the UK or Republic of Ireland who aspire to establish an independent career in research are welcome to attend the conference.
Contact RSC Events
+44 (0)1223 434048
events@rsc.org

INTERNATIONAL

Brazil

ISACS17: Challenges in Chemical Renewable Energy

8-11 September
Rio Othon Palace Hotel, Rio de Janeiro, Brazil
This conference will bring together leading scientists from across the world to share scientific developments in renewable energy generation and storage.
Contact Events Department
+ 44 (0)1223 434048
events@rsc.org

Canada

International Network of Environmental Forensics
The International Network of Environmental Forensics 2015 Conference

4-6 August
Victoria College, University of Toronto, Canada
The conference will be a combination of plenary presentations, with oral and poster technical sessions and will provide an opportunity for people of all experiences to learn from environmental forensic experts practicing and/or studying in this field.
Contact David Megson
+1 416 235-5774
inef2015@gmail.com

China

5th RSC-CPA International Symposium on Antibacterial Agents: Chemistry & Mechanism of Actions

25 August
Lanzhou University, China
The RSC is collaborating with the Chinese Pharmaceutical Association (CPA) to organise a symposium in Lanzhou as part of the 2015 China National Medicinal Chemistry Conference.
Contact RSC China Events
+86 10 5982 2317
chinaevents@rsc.org

RSC-TJU International Symposium on Antibacterial Agents: Chemistry & Mechanism of Action

27 August
Tianjin University, China
This symposium will be a satellite symposium held in Lanzhou. The symposium is co-organised by the Royal Society of Chemistry and the School of Pharmaceutical Science and Technology at Tianjin University.
Contact RSC China Events
+86 10 5982 2317
chinaevents@rsc.org

Germany

Molecular Spectroscopy Group
ORCA User Meeting

7-8 September
Wissenschaftspark Gelsenkirchen, Germany
In order to facilitate discussion between developers, contributors and users the Max Planck Institute for Chemical Energy Conversion organises the first ORCA Users Meeting.
Contact Christin Ernst
+49 (0)208 306 3681
info@cec.mpg.de

India, North India Section

ChemCareers India 2015, Hindu College University of Delhi, India

8 August
Hindu College, University of Delhi
The objective of this fair is to provide students an opportunity to learn about prospective employers, receive expert advice from professionals and gather information on career options and interact with people from the industry. At the same time it's an opportunity for industries to tap into a wider chemical sciences pool, from graduate students to research scholars and strengthens their brand awareness among students.
Contact Reena Jain
+91 981 1579601
reenajain_70@yahoo.co.in

India, West India Section

RSC Librarian Day-India

14 August
Hotel Radisson Blu, Pune, Maharashtra, India
Contact Appa Rao Patra
+91 (0)90030 66444
patraa@rsc.org

ChemCareers India 2015, Institute of Chemical Technology Mumbai

28 August
Institute of Chemical Technology Mumbai, India
The objective of organizing this fair is to provide students an opportunity to learn about prospective employers, receive expert advice from professionals and gather information on career options. At the same time it's an opportunity for industries to tap into a wider chemical sciences pool, from graduate students to research scholars and strengthens their brand awareness among students.
Contact B M Bhanage
+91 9 323 994018
bm.bhanage@gmail.com

Ireland

Analytical Division /Joint Pharmaceutical Analysis Group

How to Develop Stability Indicating HPLC Methods

21-22 September
Metro Hotel Dublin Airport
This two day training course is designed to provide a thorough understanding of how to develop HPLC methods specifically designed for stability indicating analysis of pharmaceuticals. The course will describe strategies for performing forced degradation studies and selecting optimal HPLC method parameters to ensure that all relevant degradation products are separated.
Contact Oona McPolin
+44 (0)2841 773724
info@mournetrainingservices.co.uk

South Korea

ChemComm Symposia

12-13 August
Ulsan National Institute of Science and Technology (UNIST), South Korea
The theme of the symposia is molecular design and analysis with a particular focus on bioinorganic chemistry and will feature leading researchers from around the world including scientists from Korea. The symposia will bring together exceptional researchers for an outstanding plenary programme, together with an open lunch for all attendees that will provide many networking opportunities. Hosted by Professor Mi Hee Lim. Although the meeting is free for anyone to attend we ask that you register.
Contact RSC Events
+44 (0)1223 434048
events@rsc.org

ChemComm Symposia

14 August
LG Convention Hall, Ewha Womans University, Seoul, South Korea
The theme of the symposia is molecular design and analysis with a particular focus on bioinorganic chemistry and will feature leading researchers from around the world including scientists from Korea. The symposia will bring together exceptional researchers for an outstanding plenary programme, together with an open lunch for all attendees that will provide many networking opportunities. Hosted by Professor Wonwoo Nam. Although the meeting is free for anyone to attend we ask that you register.
Contact RSC Events
+44 (0)1223 434048
events@rsc.org

Turkey

Turkey Symposium Series: Catalysis and Sensing for Health

7 September
Boğaziçi University, Istanbul, Turkey
The event will include a mix of international and locally based speakers. There will be the opportunity for students to showcase their work in poster sessions, with plenty of networking opportunities. The event is free to attend but please register your attendance
Contact Stuart Govan, RSC
+44 (0)1223 432637
govans@rsc.org

Turkey Symposium Series: Catalysis and Sensing for Health

8 September
Izmir Institute of Technology, Izmir, Turkey
The event will include a mix of international and locally based speakers. There will be the opportunity for students to showcase their work in poster sessions, with plenty of networking opportunities .The event is free to attend but please register your attendance.
Contact Stuart Govan, RSC
+44 (0)1223 432637
govans@rsc.org

Turkey Symposium Series: Catalysis and Sensing for Health

10 September
Middle East Technical University, Ankara, Turkey
The event will include a mix of international and locally based speakers. There will be the opportunity for students to showcase their work in poster sessions, with plenty of networking opportunities. The event is free to attend but please register your attendance
Contact Stuart Govan, RSC
+44 (0)1223 432637
govans@rsc.org

Turkey Symposium Series: Catalysis and Sensing for Health

11 September
Bilkent University, Ankara, Turkey
The event will include a mix of international and locally based speakers. There will be the opportunity for students to showcase their work in poster sessions, with plenty of networking opportunities. The event is free to attend but please register your attendance
Contact Stuart Govan, RSC
+44 (0)1223 432637
govans@rsc.org

MIDLANDS

Other Events

Materials Chemistry Division

Recent Appointees in Materials Science (RAMS) 2015

16-17 September
University of Warwick
A national conference specifically aimed at new Academic appointees (Lecturers, Research Fellows and Postdocs) in Materials Science. The conference will include symposia with plenary and contributed oral presentations and a poster session covering a broad range of subjects in Materials Science, networking opportunities as well as panel discussions to encourage collaboration, stimulate discussions and provide an open forum for advice.
Contact Gemma-Louise Davies
+44 (0)2476 151828
RAMS2015@warwick.ac.uk

NORTH EAST

Other Events

Faraday Division

Carbon Dioxide Utilisation: Faraday Discussion

7-9 September
The Edge, Sheffield
Carbon dioxide utilisation is an emerging technology which can contribute to the reduction of greenhouse gas emissions by the use of CO2 to manufacture useful products. While generally un-reactive, CO2 can be activated, particularly through catalysis, to yield a vast array of chemical feedstocks, intermediates and value-added products. For this to be effective, a synergistic approach is needed where multiple technologies and energy sources are integrated over a complete system.
Contact RSC Events
+44 (0)1223 434048
events@rsc.org

Dalton Division

DYME – Dalton Younger Members Event

9-10 September
University of Leeds, School of Chemistry
The symposium will begin with a plenary talk by an inspiring well-established academic who will give a brief run-through of their research career and who can give advice about the best way to obtain an academic position and succeed in an academic environment. The rest of the first day will consist of presentations by younger members. A conference dinner will be organised in the evening to allow for networking and potential collaborations. Accommodation will be organised so attendants can stay in Leeds which will be paid for by the attendants. The second day will continue with a packed schedule of young researcher contributions and will finish with another plenary lecture.
Contact Flora Thorp-Greenwood
+44 (0)113 343 6574
chmft@leeds.ac.uk

NORTH WEST

Liverpool Section

Retired Members' Lunch and Talk

23 September
Blackburne House, Liverpool
A 2-course lunch will be followed by a talk on the 'Wonderful World of Whimsy'. Tickets are £17 and members may bring a guest.
Contact Dr Bob Lee
+44 (0)151 334 7875
drboblee@msn.com

Other Events

Wikipedia Editathon

8 August
Catalyst, Widnes
The event will be hosted by the Royal Society of Chemistry's Wikipedian in Residence, Andy Mabbett. The focus will be on chemistry-related topics; including both scientific and non-scientific content. All are welcome, but places are limited and so booking is required.
Contact Andy Mabbett, RSC
+44 (0)1223 432243
mabbetta@rsc.org

SCOTLAND

Other Events

Analytical Division – Scottish / Atomic Spectroscopy Group/ Toxicology Group

Food Safety – Analytical, Toxicological and Regulatory Aspects

18 August
Glasgow Caledonian University
A one-day meeting on current analytical and toxicological challenges in food safety.
Contact Kate Jones
+44 (0)1298 218435
kate.jones@hsl.gsi.gov.uk

Carbohydrate Active Enzymes in Medicine and Biotechnology

19-21 August
University of St Andrews
Carbohydrate active enzymes are vital in an abundance of cellular processes. Malfunction of these enzymes is often implicated in diseases, and they catalyse biotechnologically important reactions. Fundamental to carbohydrate manipulation is gaining an understanding of such enzymes from a mechanistic, bioengineering, structural, functional and biological viewpoint.
Contact The Conference Office
+44 (0)20 7685 2450
conferences@biochemistry.org

SOUTH EAST

Other Events

Coordination and Organometallic Discussion Group

2015 Group Meeting

3-4 September
University of Oxford
The COMDG of the RSC is devoted to support the scientific interests of researchers involved with any aspect of co-ordination and organometallic chemistry broadly defined.
Contact Jose Goicoechea
+44 (0)1865 275961
jose.goicoechea@chem.ox.ac.uk

Protein and Peptide Science Group

IMAP 2015: 5th International Meeting on Anti-Microbial Peptides

7-8 September
The Royal Society of Chemistry, Burlington House, London
There will be a full programme of talks and posters based around four main themes: Structure, Function & Design of AMPs, Therapeutic Applications of AMPs, Peptide Biomaterials & Peptide-Polymer Hybrids and Immunomodulatory Aspects of AMPs
Contact Dr Stephen Hoare
+44 (0)1949 839586
shoare@peptideconferences.org

Toxicology Group

Working Safely with Nanomaterials in R&D laboratories: an Update.

9 September
The Royal Society of Chemistry, Burlington House, London
Current knowledge and good practice regarding the safe handling of nanomaterials.
Contact Kate Jones
+44 (0)1298 218435
kate.jones@hsl.gsi.gov.uk

Main Group Chemistry Group

Annual Meeting and Annual General Meeting

11 September
The Royal Society of Chemistry, Burlington House, London
Contact Charles O'Hara
+44 (0)141 548 2667
charlie.ohara@strath.ac.uk

Faraday Division

Single-Molecule Microscopy and Spectroscopy: Faraday Discussion

14-16 September
The Royal Society of Chemistry, Burlington House, London
Contact RSC Events
+44 (0)1223 432380
events@rsc.org

WALES

North Wales Section

Drug Delivery Workshop

6-7 August
Bangor University, School of Chemistry
This Life Sciences Research Network Wales funded workshop will pull together experts in the field of drug delivery with the ambition to generate new research collaborations and future funding applications. Student participation in the workshop will also be encouraged.
Contact Chris Gwenin
+44 (0)1248 383741
c.d.gwenin@bangor.ac.uk

Notices

Forging parliamentary links

Parliamentarians and scientists came together recently for the annual Parliamentary Links Day, an event we host in partnership with a number of learned societies.

The event offered an opportunity for wide-ranging discussion about science policy and the value of science to the UK. Our director of membership and external affairs, Clare Viney, used her place on the panel to discuss the value of science nationally to call for increased government funding for science.

The event was also a chance to meet some of the new faces who will be influential in science policy over the next parliament. Jo Johnson, newly appointed Minister of State for Universities and Science, used his keynote speech to allay any fears that he was out of his depth. He was quick to admit that he was "no science buff" but showed enthusiasm and commitment to his new role, stating that he wanted to make the UK the best place in the world for science.

In her keynote address, Nicola Blackwood, the new chair of the House of Commons Science and Technology Select Committee, echoed comments made earlier in the day by Clare. This was one of Nicola's first appearances since her election and her knowledge and appreciation of the challenges that the sector faces were warmly welcomed. She stressed the importance of ensuring that all MPs have access to scientific expertise, whether they have a professional scientific background or not.

The Speaker of the House of Commons John Bercow and fellow MPs Liam Byrne, Stephen Metcalfe and Chi Onwurah also spoke, with Sir Venki Ramakrishnan HonFRSC, now president-elect of the Royal Society, closing the event.

Higher Education policy in the Budget

Policy aficionados around the UK watched the Chancellor announce his first majority-Conservative government Budget but few expected the raft of policy changes that were announced for the UK's higher education sector.

Tuition fees will be allowed to rise with inflation from 2017-18, with the increases linked to teaching excellence. The government had already confirmed that a Teaching Excellence Framework (TEF) would be implemented in the UK, but with the outcomes being linked to universities' income there is additional financial incentive for performing well in the TEF. At the same time, the government is going to consult on freezing the £21,000 repayment threshold, which could largely balance out the cost to the treasury of allowing fees to rise with inflation. It will however mean that graduates will face increasingly harder repayment terms over time as the threshold begins to fall in real terms.

The other main headline for HE is the switch from maintenance grants which were paid to students from low-income families to loans from 2016-17. The switch to loans will mean an increase in the amount the poorest students can borrow in the short term but will mean an additional £12,000 of debt per year for those students. It remains to be seen whether the policy will affect participation rates. Whilst this change saves the government money in the short term, it puts more pressure on the student loan book as the Exchequer lends more money to the poorest students.

IUPAC in Korea

The Royal Society of Chemistry is coming to IUPAC 2015. Make sure you're on the guest list for our members and special guests reception on **Monday 10 August at Exhibition Centre II, BEXCO, Room 121-122 from 19.00-21.00**. Sign up on the events pages of our website.

Partnership vital if Britain to lead the world in STEM

Our new president-elect, Professor Sir John Holman, was back at Burlington House the day after he took office, to deliver the Lord Lewis Prize lecture for 2014. Sir John framed his discussion of chemistry education around the Conservative manifesto from the May 2015 general election, which says 'We aim to make Britain the best place in the world to study maths, science and engineering, measured by improved performance in the PISA league tables'.

Sir John said that this was a great ambition and asked whether it was possible for Britain to achieve such a level, pointing out that every country wants to be the best. He said that during education it was important to lay the foundations of scientific literacy, and to ignite the spark in future scientists. However, there were obstacles including difficulties in recruiting STEM graduates into teaching.

Popular chemists receive knighthoods

Our former president, Sir Simon Campbell (below left), received his knighthood for services to chemistry at Buckingham Palace in early July. He said: "The investiture was a splendid but relaxed occasion, and I was delighted that three generations of our family were present. It was a proud moment when Princes Anne tapped me with the ceremonial sword, and I felt very privileged to receive a Knighthood for services to chemistry. Lunch with family, friends and colleagues provided a wonderful finale to such a unique and happy event". Sir Simon spent 26 years working at Pfizer, and has set up the Simon and Jill Campbell foundation, giving financial aid to scores of students to attend Birmingham or Cambridge universities.

Professor Sir Martyn Poliakoff (below right) wore his Periodic Table tie to his investiture at Buckingham Palace. He said that the Prince of Wales was 'very interested' in learning more about green chemistry and doing green chemistry with photo chemistry. Speaking in a YouTube video, he reflected that he enjoyed receiving his doctorate because being called 'doctor' helped when he needed to complain in shops; he mused on whether being called 'Sir' might have a similar useful effect.

Clean Chemistry

The Northern Ireland Local Section presented an award at Sentinus Young Innovators 2015 for the best chemistry project.

The event, held at Ulster University, celebrates the achievements of young people in STEM.

The girls from St Mary's College, Derry cleaned up with their project Are You Getting Value For Money?, which involved an investigation of the science behind bath bombs.

The team synthesised a range of bath bombs and compared their efficiency, as indicated by the amount of gas released, and value for money, to a number of commercial brands.

The girls, aged 11 and 12, are in a STEM club at St Mary's College.

▼Dr Bill Byers of the NI Local Section presenting the girls with their trophy and a cheque for £125.

Anti-microbial resistance workshops

We helped to organise three interdisciplinary workshops on antimicrobial resistance through LeSPAR – the Learned Society Partnership on Antimicrobial Resistance. The networking events were held in London, Dundee, and Nottingham, with wide-ranging discussion on the evolution and transmission of antimicrobial resistance within different environments. Topics included examining why some resistant strains become dominant, and searching for realistic lab-based models to study infection and the development of resistance. Delegates heard how the UK funders are supporting AMR research and that the problem does not respect international borders, a challenge for both human health and animal health.

LeSPAR also includes the Biochemical Society, the British Society for Antimicrobial Chemotherapy, the British Pharmacological Society, the Society for Applied Microbiology, the Society of Biology, and the Society for General Microbiology. Find out more at **rsc.org/health**

Royal Society of Chemistry Annual General Meeting 2015

The Royal Society of Chemistry Annual General Meeting (AGM), chaired by our president, Professor Dominic Tildesley, took place at Burlington House on 8 July 2015.

Following loyal greetings to our patron, Her Majesty the Queen, Dominic Tildesley noted a summary report of the 2014 AGM and drew attention to the organisation's recent achievements, some of which are detailed in the Trustees Report 2014 **www.rsc.org/AboutUs/corppubs**

In summary, some of the highlights included:

Our journals attracted more than 92,000 submissions in 2014, and we published more than 36,000, an increase of 33%. This included the success of *RSC Advances*, which resonated with a broad range of new authors who want to publish high-quality work. We received our 2014 Impact Factors and more than 85% of our journals now have an rating of three or above. Three-quarters of our journals are in the top 25% of their category and there were some truly excellent individual results – such as the *Energy & Environmental Science* journal increasing by a third to 20.523.

Our flagship journal, *Chemical Science*, became a fully Gold Open Access journal, the world's first high quality open access chemistry journal and a strong signal of our commitment to sustainable open access publishing. Our Learn Chemistry website, which offers free chemistry resources for teachers and learners, attracted 1.6 million users in 2014, a 60% increase on the previous year.

As the UK's professional body for chemists we offer a range of professional support for the rest of our chemistry community.

Membership rose to 51,000 in 2014, an all-time high, along with a 91% member retention rate. Taking into account year-on-year figures, 2015 will see even stronger growth. ChemNet membership, for 14 to 18-year-olds, rose to more than 17,000, surpassing the target of 10,000 for 2014.

Applications for Chartered Chemist, Registered Scientist and Registered Science Technician rose by 13% year-on-year, through our support for company training accreditation and a new mentor training scheme. We admitted 256 new Chartered Chemists and 112 new Registered Scientists and Registered Science Technicians in 2014.

Our support for education has grown in terms of both scale and scope. Our team of education co-ordinators interacted with more than 5,000 teachers and 1,900 trainee teachers around the country. They also ran more than 180 ChemNet and Chemistry at Work events, reaching more than 26,000 students. The success and impact of this team led us to expand into nine new host organisations, including universities, sixth-form colleges and other educational institutions.

Funded by the Department for Education, We awarded 117 Initial Teacher Training scholarships, each worth £25,000 and a comprehensive support package for new chemistry teachers.

We have also continued to grow our reputation as the unified voice for chemistry. With support from our members, we've been influencing government and policy as never before, meeting with ministers and senior civil servants; having our campaign messages quoted in debates in both the Commons and the Lords; and gaining influential press coverage on issues vital to chemistry's future, including the science budget and specialist chemistry teaching in schools.

We commissioned the first-ever national, in-depth study into public attitudes to chemistry, finding the picture to be far more positive than we chemists tend to think. The research suggests that if our community want people to feel positive about chemistry we need to change the way we talk about it; and we can now offer evidence-based guidance on how best to do that.

We held a successful General Assembly, in Manchester for the first time. Representatives from all groups challenged and directed our strategy and discussed shared issues and best practice, rounded off with a lively event dinner, celebrating excellence in the community with our prizes and awards ceremony.

The president thanked the membership for the support received during his presidency, noting that the Royal Society of Chemistry is in a great position to grow and advance excellence in the chemical sciences.

2014 Accounts

Our honorary treasurer, Dr David Grayson, commented on the 2014 Accounts, which are published in full in the Trustees Report 2014 (see also *RSC News* June 2015, p28):

We work to shape the future of the chemical sciences and David was delighted to report that expenditure on charitable activities rose by £7.71M in 2014 with publishing revenues increasing by £7.27M. The staff headcount rose sharply in 2014 to support the increased spending on such activities.

We continued to see an increase in the growth and loyalty of our membership community, which saw our membership grow to 51,000. We generated an operating deficit of £1.2M in 2014 as part of a planned expansion of our organisational and charitable capabilities. There was a £0.33M drop in investment income due to the low returns from cash deposits and we have seen an increase in the deficit from the Defined Pension Scheme from 2013 to 2014.

The adoption of the 2014 accounts was proposed by Graham Mann, seconded by Gareth Price and approved by a show of hands. The AGM 2014 accounts were adopted.

Elections to Council, boards and divisions

Notices of vacancies for RSC Council, boards and divisions were published in *RSC News* in January 2015. Nominations resulted in the election of the following individuals:

- Polly Arnold, Ordinary Member of Council
- Sabine Flitsch, Ordinary Member of Council
- Melissa Hanna-Brown, Ordinary Member of Council
- David Rees, Ordinary Member of Council
- Janette Waterhouse, Ordinary Member of Council
- Elizabeth Page, Elected Member, Membership and Qualifications Board
- Pooja Panchmatia, Elected Member, Science, Education and Industry Board
- Emma Raven, President Elect, Dalton Division
- Alison Hulme, President Elect, Organic Division
- Steven Lancaster and Sara Evans, Elected Member, Analytical Division Council
- Rebecca Goss and Laura Barter, Elected Member, Chemistry Biology and Interface Division Council
- James Wilton-Ely and Scott Dalgarno, Elected Member, Dalton Division Council
- Karen Buck and Peter Banks, Elected Member, Education Division Council
- Carole Llewellyn and Andy Rudge, Elected Member, Environment, Sustainability & Energy Division Council
- Katherine Holt and Carmen Domene, Elected Member, Faraday Division Council
- Mark Gronnow and Ian Bell, Elected Member, Industry and Technology Division Council
- Sarah Staniland and Graeme Cooke, Elected Member, Materials Chemistry Division Council
- Paul Davies and David Alker, Elected Member, Organic Division Council

Appointment of auditors

The president proposed that Baker Tilly be appointed as auditors for 2015. The honorary treasurer, David Grayson, seconded the proposal and approved by a show of hands. The membership approved Baker Tilly as auditors of the Royal Society of Chemistry for 2015.

Subscriptions

The meeting noted the annual subscriptions payable by members with effect from 1 January 2016: Fellows £143, Members £124, Affiliates £74. The Chartered Chemist retention fee will remain at an additional £20.

Welcome to our new president-elect

President Dominic Tildesley proposed a vote of thanks to Professor Lesley Yellowlees, who retired as immediate past president at the end of the AGM. President Dominic Tildesley welcomed the new president-elect, Professor Sir John Holman, who would succeed him as President in 2016.

Vote of thanks

Tom Welton proposed a vote of thanks to the Royal Society of Chemistry, its employees and members for the great work and success achieved in 2014.

The AGM report is also available online. **www.rsc.org/AGM**

Thanking those who served on our governance bodies

As a charity, we are governed by our Council, boards, committees and divisions. These are all made up from representative Royal Society of Chemistry members, who are elected or appointed. These members guide and drive our strategies and activities at every level. Each year, the governance term is marked by the Annual General Meeting (AGM), with one term running from July to July. This year's AGM took place at Burlington House on 8 July (see previous page). With this event, a number of members retired from a variety of positions.

We would hereby like to extend a heartfelt thank you to all of these members (see list below). The incredible time and effort you have dedicated to the Royal Society of Chemistry has made a significant contribution to our activities.

We would also like to thank the many members involved in awards committees, sub-committees, publishing activities, working groups and our member network committees that we don't have space to list here. Your dedication to all these activities is greatly appreciated.

Governance Body	Position	Name
Council		
	Immediate Past President	Professor L J Yellowlees CBE FRSC FRSE
	Elected	Professor D W Bruce CChem FRSC
	Elected	Dr A Doherty OBE FRSC
	Elected	Professor E Raven CChem FRSC
	Elected	Professor G Reid FRSC
	Elected	Dr D Stevenson CChem FRSC
	Appointed	Dr J Waterhouse EurChem CChem FRSC
Boards		
Finance and Resources	Appointed	Dr T A Taylor CSci CChem MRSC
Membership and Qualifications	Chair	Dr J Waterhouse EurChem CChem FRSC
	Elected	Dr D Foley CChem MRSC
	Appointed	Dr M A Beckett CChem FRSC
	Appointed	Dr A Rudge CSci CChem FRSC
	Appointed	Dr R Williams FRSC
	Ex-officio	Professor S J Hill CSci CChem FRSC
	Ex-officio	Dr M J Prior CChem MRSC
Nominations Committee	Immediate Past President	Professor L J Yellowlees CBE FRSC FRSE
	Appointed	Professor G Reid FRSC
Publishing	Appointed	Professor C Lowe CChem FRSC
	Appointed/ Co-opted	Professor R C Glen CChem FRSC
	Appointed/ Co-opted	Mr M White FRSC
Science, Education and Industry	Elected	Dr I R Gordon CChem FRSC
	Appointed	Dr P Blenkiron CChem FRSC
	Appointed	Professor M Ratcliffe MBE FRSC
	Ex-officio	Professor G J Hutchings CSci CChem FRSC FLSW FRS
	Ex-officio	Professor H M Colquhoun CChem FRSC
Committees		
Audit Committee	Chair	Professor D W Bruce CChem FRSC
	Appointed	Professor E Raven CChem FRSC
	Appointed	Dr D Stevenson CChem FRSC
Accreditation and Validation	Appointed	Dr P Lickiss CSci CChem FRSC
	Appointed	Professor M Searcey CChem FRSC
	Appointed	Dr C L A Lamont FRSC

Governance Body	Position	Name
Committees (con.)		
Admissions	Appointed	Mr I Ferguson CSci CChem MRSC
	Appointed	Dr P Cooper CSci CChem FRSC
Benevolent Fund Grants	Chair	Dr M J Prior CChem MRSC
	Appointed	Mr L Whitfield BEM CChem FRSC
	Co-opted	Dr D Stevenson CChem FRSC
Disciplinary	Appointed	Professor R A Hill CSci CChem FRSC
	Appointed	Professor F L Pearce FRSC
	Appointed	Dr L E Smart FRSC
	Appointed to represent the public interest	Ms N Neill
Inclusion and Diversity	Appointed	Professor P H Walton CChem FRSC
Investment	Appointed	Dr W M Jordan CChem MRSC
Member Networks	Chair	Professor S J Hill CSci CChem FRSC
	Appointed	Dr I R Gordon CChem FRSC
	Appointed	Dr M A Holden
	Appointed	Dr G N Jenkins CChem MRSC
	Appointed	Mrs R Norris MRSC
	Appointed	Dr M Seery CChem MRSC
Performance, Management and Remuneration	Immediate Past President	Professor L J Yellowlees CBE CChem FRSC
Divisions		
Analytical	Immediate Past President	Mr A J Handley CChem FRSC
	Appointed	Professor I D Wilson EurChem CChem FRSC
Chemistry Biology Interface	Immediate Past President	Professor B G Davis FRSC FRS
	Elected	Professor M I Page CChem FRSC
	Co-opted	Professor G Williamson FRSC
Dalton	Elected	Dr S M Draper MRSC
	Elected	Dr R Layfield CSci CChem FRSC
	Appointed	Dr P C McGowan CSci CChem MRSC
	Co-opted	Miss S H Newland AMRSC
	Co-opted	Dr F Thorp-Greenwood MRSC
	Ex-officio	Professor P Mountford CChem FRSC

Governance Body	Position	Name
Divisions (con.)		
Education	Elected	Dr V Kind CChem FRSC
	Elected	Dr N Rowley EurChem CChem MRSC
Environment, Energy and Sustainability	Immediate Past President	Dr L F Salter FRSC
	Elected	Dr M J Edmondson CChem MRSC
	Elected	Dr A J Hunt MRSC
Faraday	President	Professor G J Hutchings CSci CChem FRSC FLSW FRS
	Elected	Professor S L Price CChem FRSC
	Elected	Dr A Zarbakhsh
Industry and Technology	Immediate Past President	Dr J Wilford-Brown MRSC
	Appointed	Mr C Jones MRSC
	Co-opted	Dr S R Fletcher CChem FRSC
	Co-opted	Professor M J Green FRSC
	Co-opted	Professor M K G Hanna-Brown CChem FRSC

Governance Body	Position	Name
Divisions (con.)		
Materials Chemistry	President	Professor H M Colquhoun CChem FRSC
	Elected	Dr M Madec MRSC
	Co-opted	Dr G L Davies MRSC
	Co-opted	Dr D Adams
Organic	Vice President	Dr J M Clough CChem FRSC
	Elected	Dr A Ferguson AMRSC
	Co-opted	Dr A P Thomas MRSC
	Co-opted	Professor R J Whitby CChem MRSC
	Ex-officio	Professor V Gouverneur FRSC

Deaths

Mr John Benjamin Baxter MRSC Retired quality compliance manger, Peter Black Healthcare Ltd. Died 6 January 2015, aged 67

Dr Clive Francis Blakely MRSC Retired lecturer in physical chemistry, City University. Died 10 April 2015, aged 88

Mrs Gillian Annette Carpenter MRSC Research technician, University of Sussex. Date of death not supplied

Dr Murray Frederick Clarke CChem MRSC Retired self-employed. Died 11 January 2015, aged 91

Mr Gerald Charles Winstone Comley CChem FRSC Retired group leader, water chemistry, AEA Technology. Died 26 May 2015, aged 87

Dr William Sebastian Dailey CChem FRSC Retired training manager, Loss Prevention Council. Date of death not supplied

Professor Sir Samuel Frederick Edwards CChem FRSC University of Cambridge. Died 7 May 2015, aged 87

Dr Raymond John Ellis CChem FRSC Retired technical educator, The World Bank. Died 18 April 2015, aged 83

Professor Dr Jerence Nansel Oleap Fernando CSci CChem FRSC Honorary Rector, College of Chemical Sciences. Died 2 March 2015, aged 71

Dr Brian Duncan Flockhart CChem FRSC Retired. Died 11 January 2015, aged 89

Professor Anthony Robert Holmes Goodwin CSci CChem FRSC Scientific advisor, Schlumberger Technology Corporation. Died 12 December 2014, aged 53

Dr Howard Clement Griffiths CChem MRSC Retired self-employed. Date of death not supplied

Dr John Harper Westell CChem MRSC Project process engineer, Johnson Matthey Plc. Died 19 May 2015, aged 33

Dr Desmond George Hellier MRSC Retired lecturer, Queen Mary & Westfield College. Died 5 May 2015, aged 76

Dr Basil Jason Heywood CChem FRSC Retired. Died 3 May 2015, aged 98

Mr Norman Charles Hills CChem FRSC Retired. Died 19 May 2015, aged 87

Sir Gordon Ivan Hobday DL CChem FRSC Retired chairman, the Boots Co. Ltd. Died 27 May 2015, aged 99

Mr John Bowes Horn CChem MRSC Retired. Died 21 April 2015, aged 94

Dr Melville Henry Litchfield CChem MRSC Retired self-employed, Melrose Consultancy. Died 13 April 2015, aged 84

Mr Raymond John Massey CChem MRSC Retired Actimax Ltd. Died 31 May 2015, aged 68

Professor Roger James Mortimer CChem FRSC Professor in physical chemistry, Loughborough University. Died 2 May 2015, aged 59

Dr Peter Alan Robins CChem FRSC Retired. Died 17 February 2015, aged 90

Viscount David Samuel OBE CChem FRSC Emeritus Professor of physical chemistry, Weizmann Institute of Science. Died 7 October 2014, aged 92

Mr John Dennis Sandrock CChem FRSC Retired. Died 23 May 2015, aged 92

Mr Alan Taylor CChem FRSC Retired sales manager RV Chemicals Ltd. Died 4 May 2015, aged 85

Dr Derek Harry Thorpe CChem MRSC Retired senior lecturer, organic chemistry, Wirral Metropolitan College. Died 2 December 2014, aged 84

Dr Aylmer John Woodward MRSC Retired. Died 29 December 2014, aged 75

To inform us of the death of an RSC member or to submit an obituary, please contact our membership team on 01223 432141 or **membership@rsc.org**. See **www.rsc.li/obituaries** for obituaries.

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