

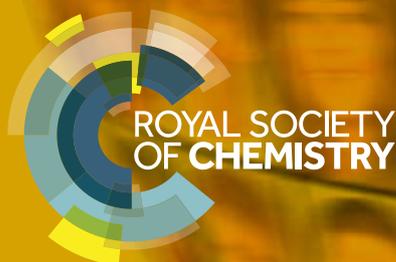
# RSC NEWS

NOVEMBER 2015 [www.rsc.org](http://www.rsc.org)

Chemistry for  
everyone  
175 Faces leading the way

Consultancy  
and chemistry  
p6

Supporting new  
routes to higher  
education  
p10



ROYAL SOCIETY  
OF CHEMISTRY





▲ Find out more about the recent EuChemS General Assembly, in Snapshot, on p5.

▼► Our feature on p10 celebrates the Access to Science programme and Registered Scientist Technician Awards.



▼ Our annual Science and Stormont event took place in October, discussing the theme of Energy and the Environment at Northern Ireland's Assembly buildings. See p5 for more details.



# Contents

NOVEMBER 2015

**Editor:** Edwin Silvester

**Assistant editor:** Ruth McAvinia

**Design and production:**  
Vivienne Brar

**Contact us:**

RSC News editorial office  
Thomas Graham House  
Science Park, Milton Road  
Cambridge, CB4 0WF, UK  
**Tel:** +44 (0)1223 432294

**Email:** [rscnews@rsc.org](mailto:rscnews@rsc.org)

Burlington House, Piccadilly  
London W1J 0BA, UK

**Tel:** +44 (0)20 7437 8656



@RSC\_Newsroom



[facebook.com/RoyalSocietyofChemistry](https://www.facebook.com/RoyalSocietyofChemistry)

**Photography:**

Cover: © Shutterstock. Photos  
© Royal Society of Chemistry or  
courtesy of the subject.

Left: top © EuCheMS; centre row ©  
Gatsby Foundation / Stuart Boreham;  
bottom row © Michael Cooper.

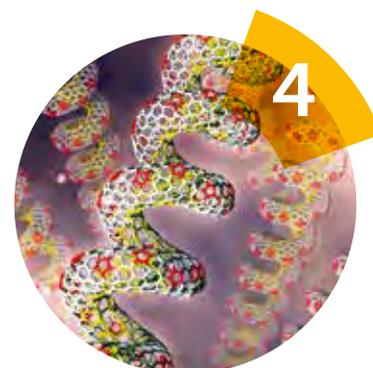


© Royal Society of Chemistry 2015  
Registered charity number 207890



## REGULARS

- 4 Snapshot**  
News and updates from around  
the organisation
- 6 One to one**  
Find out more about consultancy
- 7 Profile**  
You're hired! Meet chemistry apprentice  
Charlotte Vincent of LGC
- 12 Opinion**  
Your latest letters to the editor



## FEATURES

- 8 Chemistry for everyone**  
News about 175 Faces and our  
anniversary
- 10 Second chance at science**  
Celebrating the Access to Science  
programme and RSciTech Awards

## DIARY

- 13 Conferences**  
Upcoming meetings and deadlines
- 14 Events**  
Your guide to events by region and section
- 18 Notices**  
Exciting events from your community
- 21 Admissions**  
Welcome to our newest members

# Snapshot

A look at the latest news from around the world

## IN BRIEF

### Help protect the science budget

Later this month, the UK Government will be deciding the budgets of each of its departments as part of its Comprehensive Spending Review. Big cuts are anticipated for a number of departments, and it's a concern that the science budget will be hit.

The UK already spends far less than our competitors on science. We invest only 1.6% of GDP on research and development, far behind our competitors such as the USA and Germany, who invest 2.8% and 2.9% respectively.

If the science budget is reduced this will damage our capability to innovate, and will affect our ability to attract private sector investment and world-leading researchers.

If you're concerned about this, we urge you to write to your MP as soon as possible, to call for George Osborne to protect the science budget in real terms.

On [rsc.org](http://rsc.org), you can find a template letter, which you can send via the website. If you have time, we would recommend that you personalise your letter.

For full details see: [rsc.li/science-support](http://rsc.li/science-support)



© SHUTTERSTOCK

## New molecular engineering journal

We've announced a new interdisciplinary journal with the Institution of Chemical Engineers (IChemE). *Molecular Systems Design and Engineering* is already accepting submissions for its first issue in 2016, and will be published six times per year.

"It is a unique journal in terms of scope and aims to foster greater collaboration between scientists working in different disciplines," says our director of publishing, Emma Wilson. "We are delighted to be working in partnership with the IChemE to bring our combined expertise into shaping and developing *Molecular Systems Design and Engineering*."

The journal will focus on understanding molecular properties, behaviour and interactions, and how this can be applied to the design of processes, to solve global technological problems. It will bring together selected disciplines in biology, chemistry, physics, engineering, computational and materials science.

*Molecular Systems Design and Engineering* will be free to access for the first two years of publication and will be led by Professor Juan de Pablo, based at the Institute of Molecular Engineering in Chicago, USA.

"The journal will help to shape and advance the field of molecular engineering for the future," says Professor de Pablo. "We want to highlight this way of working at very small scales, whilst trying to build or assemble useful

materials or useful devices – using design concepts, an element of theory, or simulation.

"The journal will help popularise this way of working, and this new field that we call molecular engineering."

Authors wishing to find out more about *Molecular Systems Design & Engineering* should visit: [rsc.li/molecular-engineering](http://rsc.li/molecular-engineering)

The journal is now open for submissions via: <https://mc.manuscriptcentral.com/msde>



## Nominations open for our prizes and awards 2016

Submissions are now open for our annual prizes and awards, celebrating exceptional achievements across academia, education and industry.

For more than 140 years, we've been acknowledging and celebrating exceptional talent in the chemical sciences. This could be anything from inspiring a new generation of scientists through their teaching, to their chemical science research helping combat the global challenges we all face.

With over 60 prizes and awards for individuals, teams and organisations, we cover a breadth of diverse areas and recognition is open to all.

An illustrious list of former winners of

Royal Society of Chemistry awards have gone on to win Nobel prizes for their pioneering work, including Harry Kroto, Fred Sanger and Linus Pauling.

Our chief executive, Dr Robert Parker, says: "Our winners are the very best in their fields, and they can be very proud to follow in the footsteps of some of the most influential and important scientists around the world".

If someone you know is making an outstanding contribution to the chemical sciences, nominate them now.

Nomination information and the different categories are available on [rsc.org/awards-funding/awards/](http://rsc.org/awards-funding/awards/)

## Science and Stormont 2015

Our annual Science and Stormont event took place in October, discussing the theme of energy and the environment in the grand surroundings of the Senate Chamber, part of Northern Ireland's Assembly buildings at Stormont. This annual event was once again hosted by Basil McCrea MLA, chair of the Northern Ireland Assembly All-Party Group on Science and Technology.

Sessions included a lively debate on energy security, chaired by Clare Viney, Royal Society of Chemistry director of membership and external affairs, including the keynote speech from Anna Lo MLA, chair of the Northern Ireland Assembly Committee for the Environment.

Our chief executive, Dr Robert Parker,

concluded proceedings, saying: "I'm delighted that we have been able to bring such a diverse group of scientists together with assembly members for science in Stormont this year and that we have again had such a good level of debate.

"But this event will only have been a success, if you are able to build on the connections you have made, and work together in the future. It is only by working together that Northern Ireland will be able to harness the full power of science for sustainable growth.

"I hope that this afternoon has given you some new insights into how Northern Ireland can make the most of its natural resources and left you optimistic about the future of the scientific community here."

► L-R: Leigh Jeffes, Patsy McGlone MLA (Social Democratic and Labour Party), Robert Parker, Clare Viney, Paul Frew MLA (Democratic Unionist Party), Basil McCrae MLA (NI21).



© MICHAEL COOPER

## EuCheMS General Assembly 2015

Robert Parker also recently spoke at the EUChemS general assembly in Geneva about the Royal Society of Chemistry's recent research on public attitudes towards chemistry in the UK. He encouraged the 60-strong grouping of representatives from other European chemical science organisations to consider how they communicate with the public in their own countries.

He explained that: "Chemistry doesn't have an image problem in the UK, like we feared. However, it doesn't have a very clear image either. Most people recognise it has a beneficial impact, but it seems complicated, distant and abstract.

"There is a great opportunity to help people connect with chemistry, by giving them relevant and tangible examples of how it makes life better. We want to make sure every chemist feels confident to communicate their passion in a positive way, whether through outreach activities or talking to their friends and family."



© EUCHEMS

### INBRIEF

#### Periodic Tales: The Art of the Elements

This autumn, the stunning setting of Compton Verney art gallery plays host to *Periodic Tales: The Art of the Elements*. This exhibition explores a selection of the elements drawn from the periodic table and looks at how artists have used them and their cultural meanings in their art.

Alongside historic and contemporary works – by artists including Eduardo Paolozzi, John Constable, Antony Gormley, Comelia Parker and Lucy Skaer – our education coordinator Selina Kermode took part in a chemistry exhibition evening with Professor Andrea Sella, on 30 October.

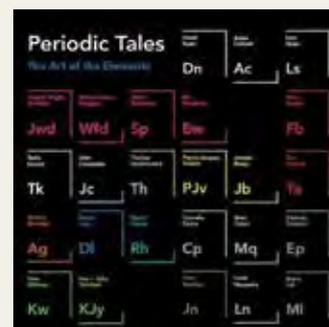
Andrea is fascinated by one element in particular. He explains: "Mercury is for many the most beautiful and mysterious of the elements in the periodic table; yet it is also one of the most reviled. No one who has ever used it for science or simply come across it by accident ever forgets that first encounter, yet the story is always accompanied by a guilty giggle because deep down we know that we survived a close shave with danger.

"Until quite recently, for chemists and physicists, mercury was never far away, whether in thermometers, manometers, pumps or electrodes. Indeed our understanding of the physical world around us owes a great debt to mercury-based apparatus.

"Among the strangest was Lipmann's electrometer which relies on the uncannily weird electrocapillary effect which, in the right circumstances, allows one to build a mercury automaton, which develops a frenzied chemically-driven motion that defies common sense.

"While we can explain the dance scientifically, one can also turn it into something thought-provoking even to those with little background in science. The artist Anthony Hall and I have turned it into a mysterious sound and light show I have been showing off a partial version of."

Visit [comptonverney.org.uk](http://comptonverney.org.uk) for more information about the exhibition.



© COMPTON VERNEY

# One to one

Take advantage of a wide range of member services

## Consultancy – using your expertise to help others succeed

I'm thinking of setting up my own consultancy business. The time has come when I would like to work for myself but, although I have many years' experience and a wide depth and breadth of knowledge, I've never worked outside of a large company before. What support can the Royal Society of Chemistry offer?

Currently, 2% of Royal Society of Chemistry members list their main occupation as 'consultant' and a steady number of new consultants are added to the total each year.

Consultancy is an interesting and challenging career option. Our consultant members offer services across all fields of the chemical sciences, as well as associated areas from management, business development and marketing, to people development, organisational strategy and policy, legal services and health and safety.

In common with all career options, consultancy has its benefits – such as a more flexible working pattern, greater autonomy and using your expertise to help other organisations succeed; and its drawbacks – for example isolation, loss of networks and a lack of professional development opportunities.

We have been working closely with the Royal Society of Chemistry Consultancy Group for the past year to enhance the support we offer. You can join up to three interest groups as part of your membership package, so the consultancy group is for you if you are already a consultant or are contemplating that option – the group warmly welcomes new members. The committee runs a regular programme of networking and professional development events, and hosts an online discussion forum on *MyRSC*.

Dr Bill Edwards, chair of the consultancy group, explains: "Chemical consultancy has been around for longer than the Royal Society of Chemistry. The consultancy group acts as a voice for consultants within the RSC. Our current membership covers a wide range of expertise including chemical analysis, forensic science, pharmaceuticals, cosmetics and the transport of chemicals.

"Recently we have concentrated on producing a programme of meetings which will be of use to the members. We have had speakers on marketing, insurance, intellectual property law, taxation and contracts. In addition we have run workshops on subjects like direct mail and setting up a consultancy."

Joining the consultancy group is a good way to network with others. The online forum is particularly useful for new consultants where problems, experiences and advice can be shared among fellow consultants. Consultancy can often be a lonely business and it's comforting to know that there are other chemical scientists out there who have been through the process. They are willing to share their experience with others and provide assistance.

### New initiatives

As a result of the collaboration with the consultancy group, several new initiatives have got off the ground:

- **A *Guide to Consultancy* is available free of charge to any member on request. It comes with a personal workbook to record your progress. Email [careers@rsc.org](mailto:careers@rsc.org) for further information.**
- **Beginners may be interested in a webinar that we held as part of ChemCareers week in October on consultancy, where two members of the consultancy group committee talked through their experiences and passed on useful tips. You can view the webinar at [my.rsc.org/chemcareers](http://my.rsc.org/chemcareers)**
- **For established consultants, we've developed a new online *Directory of Consultants*. The directory is a signposting service to enable anyone looking for chemistry and related**

expertise to identify members who may be able to provide the services they need. The directory is in the pilot phase at the moment and, if successful, there will be further development and a full launch next year. You can see the pilot directory at [rsc.org/membership-and-community/directory-of-consultants](http://rsc.org/membership-and-community/directory-of-consultants)

- **We have negotiated discounts on professional indemnity insurance. Find out more here: <http://www.rsc.org/membership-and-community/join/#benefits>**

### Networking and professional development

Continuing Professional Development can sometimes be a thorny issue for consultants, so that's another reason to join the consultancy group. Also, make the most of your RSC membership by joining the most relevant divisions and interest groups for your area of expertise. They all run programmes of events and provide opportunities to keep you in touch with your specialist area: [rsc.org/membership-and-community/connect-with-others/through-interests](http://rsc.org/membership-and-community/connect-with-others/through-interests)

Keep a watch on our events listing too for conferences and other networking and professional development opportunities at [rsc.org/events](http://rsc.org/events)

To help consultants (or any member) with planning and recording professional development, we have an online system for you to create your own personal professional development plan. You can set goals for yourself, log your activities and your reflections on each learning experience. You can create your own professional development record by logging in – using your membership number – to [rsc.org/cpd/members](http://rsc.org/cpd/members)

We can't help directly with business, legal or contract advice, but there is a wealth of support available. If you're interested in finding out more about consultancy, the consultancy group or any of the resources and support that we can provide, please get in touch by emailing [careers@rsc.org](mailto:careers@rsc.org)

# Profile

A closer look at our members and their interests



**Charlotte Vincent**  
MRSC works in LGC's radiochemistry department, having completed a two-year apprenticeship.

## Charlotte Vincent

Meet the apprentice putting her forensics expertise into practice in radiochemistry

### **Q** What route have you taken into a career using chemistry?

**A** I was involved in an apprenticeship with LGC and CSR Group. This apprenticeship was an intense 18-month course working four days per week and studying one day per week. Previous to the apprenticeship I was unsure of what career path to choose; so I studied a two year Level 1 and 2 hair and beauty course, as I knew would always have this trade.

My interest in forensic science came about after speaking to my Dad about his job as a fire investigator. He told me about how he worked alongside crime scene investigators; I instantly found the field of forensics interesting.

I looked into completing various college courses within the science field but was unsuccessful as I was told I didn't have enough scientific background. Fortunately I came across the apprenticeship advertisement and I was pleased to have been offered the job in 2011.

I was placed within the Specialised Forensic DNA department. From the first day they were all extremely welcoming and supportive and I was able to experience the forensic working environment within each laboratory and office.

My team put a lot of trust and belief in me; I was given projects to work on and I was able to manage a lot of my own work. I was able to see a very specialised area of forensic science and I was involved in various specialist processing, from bone and tissue samples to sequencing mitochondrial DNA samples. I feel very lucky to have gained such specialised skills.

I thoroughly enjoyed the whole experience of the apprenticeship. I was fortunate enough to have been offered a job within LGC's radiochemistry department upon completion of my apprenticeship, and have been working in the team for two and a half years. I analyse water, soil and food samples for present radioactive isotopes. These samples are separated into two different laboratories; low level and high level. It is important to keep the samples separated to avoid any cross contamination.

The samples within the low level laboratory are mainly from drinking water companies, water from reservoirs and rivers. We also receive samples from competing companies to process. In the high level laboratory we receive samples from nuclear power plants and also from witnessed sampling off-site.

Samples are processed by distillation, column separation and evaporation techniques. I analyse the samples on liquid scintillation counters, gamma spectrometry and Berthold counting methods.

### **Q** So you get both academic and practical experience this way?

**A** The academic side of the apprenticeship was interesting and challenging at times. The units and essays I completed tied in with the practical work in the laboratory. This was beneficial as I could put my knowledge into practice. I was involved in the additional courses provided such as a visit to Keele Medical School, blood pattern analysis, forensic photography, court awareness training and crime scene management.

I also experienced teaching A level and BTEC students that were studying the same subject as I was on the apprenticeship scheme. The Specialised Forensic DNA team also offered help and support with my academic learning by explaining parts that I was unsure of and allocating time for me to complete the work.

Having no real scientific background previous to the apprenticeship, I feel that I have gained a vast amount of experience, skill and knowledge and I have been positively challenged on a personal and professional level.

### **Q** What advice would you give to others thinking about taking an apprenticeship of this sort?

**A** Apprenticeships are hard work. You have to manage your time effectively to ensure you are giving your assignments enough attention, while ensuring you are getting as much work experience as you can within the laboratory/workplace.

If you have limited scientific background, this is a great way to gain transferable skills and knowledge at the same time, making you highly employable and providing you with qualifications required for further education.

The most important piece of advice is take any opportunity that arises. The idea of the apprenticeship is to learn while you are working, so ensure that you are being exposed to varied environments and areas within science. Doing so will ensure you have the correct training and experience, helping you upon completing your apprenticeship.

"Having no real scientific background previous to the apprenticeship, I feel that I have gained a vast amount of experience, skill and knowledge and I have been positively challenged on a personal and professional level."

# This is for everyone

In February 2016, we will celebrate our 175th anniversary. Just over three years ago, an idea was born to celebrate diversity and the anniversary at the same time

Although we embrace diversity in all of our activities, this project was a special one to gather some of the most amazing life stories of chemists from every walk of life.

"As president, I had been asked about my themes for my presidency," recalls Professor Lesley Yellowlees. "As the first woman president in a hundred and seventy something years, I felt I should highlight women in chemistry. Gender is so important, but the idea grew broader, to become about inclusion of all kinds and making chemistry for everybody."

Working with the leadership team and colleagues across the organisation, the project was refined to become the 175 Faces of Chemistry – 175 different stories to be told on average once a week leading up to the 175th anniversary. As the anniversary draws nearer, the Diversity team has unveiled a new design for the website, to display the profiles better and make the stories easier to search. See [rsc.li/175-faces](http://rsc.li/175-faces) for the stories so far.

"It's been a chance to highlight lots of different things chemists can do. When I pick up a magazine, I love to read the real-life stories, and I thought this was a great opportunity to capture human experiences connected to life or work in chemistry," says Lesley. "These are just one collection of the extraordinary stories from our community, and the stories demonstrate how chemistry can help people to succeed."

"I also see it as a great resource for those considering studying chemistry. It shows that chemistry is a true enabling subject. Chemistry teaches people how to solve problems, and to use frameworks to solve problems. We can point to these profiles and show why we do chemistry, and develop these skills, because what we teach in chemistry is a real-life skill, in posing questions and finding ways to answer them."

Nominations for people to be included in 175 Faces of Chemistry have come from all over the world. Some of those nominated were chosen by friends or colleagues who knew them well; some by fans who were inspired by chemists who are famous for their scientific work or for other skills, while some of the nominees are the great historical chemists who laid the foundations of the discipline over hundreds of years.

"175 Faces is a wonderful showcase," says Lesley. "Let's highlight these people, and highlight what's going on in chemistry. We should paint a picture of what we can achieve together."

"As human beings we are looking at global challenges and how to address very complex problems. These are problems that will not be solved by single research groups, or even single disciplines alone. Chemists by themselves will not be able to solve them, any more than any other group of scientists by themselves. We as chemists have had to learn the languages of other disciplines to communicate better – we need to keep learning to speak these languages such as those of social science and other sciences – that's how we will find solutions."

As part of the anniversary celebrations, an exhibition featuring the 175 Faces will be held at Burlington House from 22 February–4 March 2016. The exhibition will be open to the public, and will give visitors the opportunity to learn more about chemists and about Burlington House, as well as interactive activities emphasising diversity in the chemical sciences.

Ensuring that the chemical sciences are inclusive and diverse is a challenge that will continue long after the 175th anniversary is celebrated.

"There is still a lot of work to do on inclusion," says Lesley, "I'm anxious that people might think we've solved it. But we haven't. It's not ok. At least not yet."

"We still need to support people from different backgrounds. To encourage new people to take chemistry up, we must make the opportunity there for everyone. That's a positive message we can bring wherever we go – chemistry is for everyone."



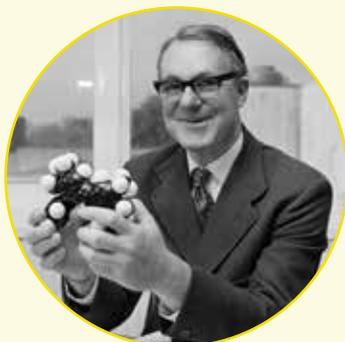
# YEARS

**WORDS**  
RUTH MCAVINIA AND  
ELISABETH RATCLIFFE

Each of the 175 Faces of Chemistry is extraordinary in their own way – we spoke to some of the people who nominated our 175 Faces to ask what inspired their choice.

### John Cornforth

Australian Nobel laureate John Cornforth was nominated by Emma Stoye, Science Correspondent for *Chemistry World*. The Rita and John Cornforth Award, named after this unique couple, promotes and rewards scientists working in collaborative research teams in chemistry and life sciences.



© BETTMAN / CORBIS

"While I was writing an obituary for John Cornforth, who passed away a couple of years ago, he struck me as one of a kind. He became completely deaf at the age of 20, but refused to let it hold him back. I can't imagine studying without being able to hear lectures, but he managed it, in partnership with his wife Rita, who was also his interpreter, and went on to win a Nobel Prize. It's an inspiring story about overcoming challenges."

### Karen Field

PhD student Stephen McCarthy picked science teacher Karen Field:

"I believe 175 Faces should aim to represent the whole diversity of people connected with the chemical sciences, and that includes trans people, who regularly face discrimination. Simply showing that not only do trans people exist, but are also contributing to the chemical sciences, is important. Karen is also a teacher, and with her bright blue hair and corseted lab coat, she sounds much cooler than any science teacher I ever had!"



© ROYAL SOCIETY OF CHEMISTRY / ANNE PURRISS

### Cynthia Mena-Duran

Giulia Paggiola selected Mexican chemist Cynthia Mena-Duran, who battled to pursue her love of chemistry, and now works to improve education.

"We often take for granted the opportunities we have to pursue our intended studies, career and passions. Cynthia Mena-Duran had to fight for all this and keep up her strong motivation against all the economic and cultural barriers she faced. I admire her strong sense of citizenship and her drive to pass on the results of her efforts for the benefit and development of her indigenous community. I find her a truly inspiring woman."



COURTESY OF CINTHIA MENA-DURAN

### David Price

Toby Underwood, RSC Accreditation Manager, nominated David Price, who's faced the challenge of serious illness mid-way through his career as a medicinal chemist:

"I first met David when I started work at Pfizer down in Sandwich. He really was one of the go-to guys. Somebody who was always willing to down tools and help if you had a question or problem. I nominated David as, in my opinion, he's an inspiration for people in similar positions."



COURTESY OF DAVID PRICE

### Holly Redman

Chemist and restaurateur Holly Redman was put forward by our chief executive, Dr Robert Parker:

"Not every chemist works in a lab, and Holly is a great example of how a chemistry degree can be a gateway. She's combined the skills from her degree with a passion for food to found her own company, creating meals for people with food sensitivities. Holly's determination and talent make her a wonderful ambassador for chemistry."



COURTESY OF HOLLY REDMAN

## PLEDGE 175 MINUTES FOR CHEMISTRY

The Royal Society of Chemistry was formed 175 years ago by a group of scientists who volunteered their time for scientific discussions and we want to provide members with more ways to become and remain engaged with us.

As well as celebrating diversity in science we also hope to celebrate our milestone with as many of our members as possible. So, throughout 2016, we would like to ask you, our members, to pledge 175 minutes of your time for chemistry, celebrating it worldwide.

Many of our members already give well over 175 minutes to Royal Society of Chemistry-related activities every year and, with this initiative, we want to recognise this and support them in return.

You might consider spending your minutes attending an RSC event or conference, getting involved with chemistry outreach, writing to your local MP about the importance of science funding or taking up a member benefit such as our one-to-one career consultations.

Over the coming months we will let you know some of the many ways you can get involved. We want to make sure that all members can take part, and see how many hours in 2016 our community can give to chemistry.

# Access to science

WORDS  
ALEX JACKSON

## The Access to Science programme and Registered Scientist Technician Awards – helping close the skills gap, supporting vocational routes into science and connecting education and employers

For Olivia Fitzgerald, the idea of returning to education was exciting. After undergoing major spinal injury and, as a result, missing out a large part of an A-Level academic year, she was determined to pursue her ambitions and study at university.

Inspired by testing times and two years' difficult recovery, Olivia looked at other options to rekindle her love for science and forge a career in physiotherapy. It was here that she stumbled upon the Access to Science Higher Education Diploma at the City of Liverpool College – a 12-month programme that enables students to meet the entry requirements for university. A practical alternative among those who may not have received the required A-Level results or are changing career, the opportunities seemed promising to Olivia.

"I realised this would be a wonderful opportunity to reinsert myself into a classroom, before university, which was something home schooling wasn't able to offer," says Olivia, who narrowly missed out on the grades needed for a physiotherapy degree course, following her surgery.

Run by the Gatsby Charitable Foundation, the Royal Society of Chemistry and a number of training providers, Olivia's was the second year the programme incorporated the newly formed Registered Scientist Technician Award (RSciTech). As part of the dual scheme – and to receive the professional award – individuals are judged on their competency in a work-based setting.

Working at Zep, which makes chemical products for industrial maintenance, she was tasked with a dye rationalisation project, using spectroscopic analysis to determine spectra and concentration of dyes. "I firmly believe the skills I have learnt through the programme will benefit me greatly in my future career," says Olivia, who has recently started at Manchester Metropolitan University.

"The programme has been influential in achieving my university place and studying for a BSc Hons in Physiotherapy. Guided by the professional bodies, a new generation of scientists, eager to increase their knowledge and influence in their respective science field has developed," she adds.

▼ Andrew Thomas and Olivia Fitzgerald celebrate at Burlington House with James Herbert, Lynn Borthwick and Sandra Fitzgerald.



## Diverse activities

Olivia's story is echoed by many of the other students, of whom 90 were awarded RSciTech status (from comparing oxygen across different lakes and investigating moisture levels in grain using alternative drying methods, to looking at the effectiveness of plaque removal by varying experiments). The success stories are as diverse as they are geographically spread across the UK.

However, it is not only the students who have benefited from the programme. Employers are finding many positives too. Andrew Thomas, Industrial Research and Development Manager at Zep, described the "palpable enthusiasm" of the students and their desire to interpret briefs and take projects forward.

"Their enthusiasm has been amazing," says Andrew. "The project results will mean we are able to cut the number of our dyes and increase the efficiency of the business. Seeing the students engage with the project has been much more rewarding than I thought it would be."

## Celebrating success

Recognising this year's achievement, the Royal Society of Chemistry hosted a special event at Burlington House in October, celebrating the 25 top achieving students and colleges from across the country.

Presenting the students with their certificates, Sir John Holman, Royal Society of Chemistry president-elect, said: "The UK science sector needs more skilled technicians. We are committed to helping close this skills gap, by supporting vocational routes into science, and connecting education and employers."

"The Access to Higher Education Diploma and RSciTech scheme is a great example of this. I congratulate all the students on the dedication they have shown in their industry projects, and the investment they have made in their futures through gaining RSciTech status."

## Raising awareness

The importance of schemes like the Access to Higher Education Diploma and RSciTech are paramount to the UK economy and the scientific sector. At present, there is a particular need for more highly skilled technicians in science-based roles – something the Royal Society of Chemistry is keen to address, by raising the profile of technicians.

A report, published in 2012 by the Technician Council, indicated an alarming skills gap between current technician numbers in the UK and the 450,000 needed by 2020. The research showed that the science workforce consists of those with both vocational and academic skills. It showed 34% of the industry was non-graduate; 32% graduate and 26% postgraduate.

Jean Scrase, of the Gatsby Foundation, which funds individuals to be assessed for RSciTech and also pays their professional body membership fees, believes the skills and experience the students gain are both rewarding and beneficial to further studies.

"Not only has the experience of being involved in this pilot prepared the students for science courses in Higher Education, but it has also brought the added benefit of helping them gain professional Registered Science Technician status through the Royal Society of Chemistry – formal professional recognition that they can rightly be proud of."

"Personally, to be assessing the projects the students have carried out on behalf of local employers has been a great experience. It's a fantastic opportunity to see first-hand how they have added capacity to local businesses, whilst also gaining valuable practical technical skills and knowledge."

Olivia Fitzgerald looks back on her time during the programme with a great sense of pride and achievement. "To hold an accredited status is a wonderful accomplishment, which will prove beneficial to future employment within the science sector, as a reflection of the skills we have amassed throughout the programme," she concludes.

For further information on RSciTech, visit [www.rsc.li/rscitech](http://www.rsc.li/rscitech)



IMAGES © GATSBY FOUNDATION / STUART BOREHAM



▲ Our president-elect Sir John Holman, presented the students with their certificates.

▼ Olivia Fitzgerald spoke about her experiences on the Access to Science programme.



# Opinion

Letters and comments on RSC activities and issues

## FROM THE EDITOR



We stride ever closer to 2016, our 175th anniversary year, and towards the culmination of our *175 Faces of Chemistry* project. Each profile features someone

in the chemical sciences who represents *diversity* in the broadest sense; someone who is a role model, champion and ambassador for an inclusive culture and diverse future generation of chemists. It's almost three years since our then-president, Professor Lesley Yellowlees, launched the project and she's keen to stress that our community's work on diversity doesn't end next year (p8).

We've also been celebrating success with this year's *Access to Science programme* and Registered Scientist Technician Awards, bringing together the 25 top achieving students and colleges from across the country. We hear from Olivia Fitzgerald, who explains how she has benefited from the scheme, which works to help close the skills gap, support vocational routes into science and connect education and employers (p10).

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](mailto:rscnews@rsc.org)

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



@RSC\_Newsroom



[facebook.com/RoyalSocietyofChemistry](https://www.facebook.com/RoyalSocietyofChemistry)

## Son of Cornwall

I was most interested to read the piece about Sir Humphry Davy in the October 2015 issue of *RSC News*. I have myself just published a book entitled *Concepts in Scientific Writing*, accessible free of charge by going to Bookboon web site. Davy is one of many exemplars who feature in the book, and I draw attention to his having written: '... it [a compound of sulphur and chlorine] affects the eyes like the smoke of peat' and I comment that peat is a 'homely' example possibly reflecting Davy's upbringing in Cornwall. This is entirely consistent with the statement by Professor Frank James in the RSC article referred to that Davy's formative years in Cornwall were a strong influence on his later life and work.

**Professor Dr J Clifford Jones CSci FRSC**  
Gippsland, Victoria, Australia

## GradRIC revisited

When I started as a lab technician at Kodak in 1978, it was almost obligatory that you took a day release course for GRIC or a degree. The former was a year shorter and was the route I chose. Speaking to colleagues now, we often feel that the GRIC route provided a more rounded education in Analytical Chemistry than the current full time degrees.

I now have a son who is doing a part-time degree (not Chemistry) which will have taken him four years when he finishes next summer, but at a cost of about £10k. As a family we have helped him afford the fees etc, so he will be debt free. Surely there is an opportunity here for Universities to run day release courses once again, for students who want good qualifications without getting into debt. Employers might be more interested in apprenticeship schemes if they could offer day release courses similar to GRIC. Having searched the internet, these types of part-time degree courses are few and far between.

Could the RSC not try to promote these more?

**John Welch CChem MRSC**  
Twickenham, UK

**Editor:** See p7 for a profile of one such successful apprentice.

I have searched through my, rather few, papers for information on what I believe Graduates of the former Royal Institute of Chemistry have entitlement.

I think that Graduates were granted the honour of wearing an Academic Robe with a hood lining of a designated unique colour/texture. Fellows having a different hood lining.

In which case, a formal letter might be sent from RSC to all Members/Fellows acquainting them of this entitlement (with perhaps a photograph of the gown and a small piece of the hood lining).

I have a rather hazy memory of there being an illustrated short article about this in (was it?) *Chemistry in Britain* or another publication by the Society.

Maybe you could search the archives for information?

**John Figg**  
Milton Keynes, UK

**Kim Smith**, RSC Qualifications and Accreditations specialist says: "Whilst we do not have any information regarding GradRIC academic dress specifically, GRIC is equivalent to the GRSC qualification which followed it. People who passed GRSC Part I examination at an appropriate level may wear a plain black gown with plain forearm and pointed sleeve. The hood should be shaped as for the Oxford MA with an outside of grey Russell Cord. Those who passed GRSC Part II should have a hood lined with purple."

# Diary

Your guide to all important events

## IN THE DIARY

Conferences	13
Events	14
Eastern	14
International	14
Midlands	14
North East	15
North West	15
Scotland	16
South East	16
South West	18
Wales	18
Notices	18
Admissions	21
Deaths	23

## NOTICES



See p19 for news of a successfully sponsored scientific symposium.

## Further information

To find out more about any event on this page, see [www.rsc.org/events](http://www.rsc.org/events)

Call +44 (0) 1223 43 2254/2380

Or email [events@rsc.org](mailto:events@rsc.org)

## RSC conferences

Faraday Discussion

### Chemistry in the Urban Atmosphere

6-8 April 2016  
London, UK

**Poster abstract submission deadline – 25 January 2016**

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 and
- 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>



Faraday Discussion

### Liquid Salts for Energy and Materials

11-13 May 2016  
Ningbo, China

**Poster abstract submission deadline – 29 February 2016**

This Faraday Discussion focuses on energy and materials in relation to the understanding and applications of liquid salts, particularly at elevated temperatures. It is a unique opportunity for scientists and engineers from academia and industry to present, discuss and debate recent discoveries and future developments.

To be considered for an oral presentation and associated published paper, submit your abstract on one of our four key themes:

- benefits to energy efficiency and environmental impact;
- improvements of energy conversion and storage;
- developments for nuclear reactors and spent fuels processing and
- advancement in knowledge of phenomena and processes.

Join us in Ningbo, May 2016 – secure your place by registering online now.

<http://rsc.li/liquidsalts-2016>



## ANNOUNCING

### Single Entity Electrochemistry (Faraday Discussion)

31 August-2 September 2016  
York, UK

<http://rsc.li/electrochemistry-fd2016>

### Reaction Rate Theory (Faraday Discussion)

19-21 September 2016  
Cambridge, UK

<http://rsc.li/reaction-fd2016>

### Carbon Capture and Storage (Faraday Discussion)

18-20 July 2016  
Sheffield, UK

<http://rsc.li/ccs-fd2016>

## DATES AND DEADLINES

### Ultrafast Imaging of Photochemical Dynamics: Faraday Discussion

31 August-2 September 2016  
Edinburgh, UK

Oral abstract deadline – 14 December 2015

<http://rsc.li/dynamics-fd2016>

### Single Entity Electrochemistry (Faraday Discussion)

31 August-2 September 2016  
York, UK

Oral abstract deadline – 14 December 2015

<http://rsc.li/electrochemistry-fd2016>

### Nanoparticle Assembly: From Fundamentals to Applications (Faraday Discussion)

7-9 January 2016  
Mumbai, India

Final registration deadline – 7 December 2015

<http://rsc.li/assembly-fd2016>

# Events

## Further information

The RSC News Diary this month lists Royal Society of Chemistry events from November to December 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](http://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

#### Fireworks and Waterworks – A Spectacular Chemistry Demonstration

5 November  
University of Cambridge  
We are delighted to welcome Dr Andy Szydlo for this year's lecture. He will dazzle, entertain and educate his audience with a series of spectacular science demonstrations.  
**Contact**  
+44 (0)1223 894174  
[john.otoole9@btopenworld.com](mailto:john.otoole9@btopenworld.com)

### Other events

#### Biological and Medicinal Chemistry Sector 9th BMCS Postgraduate Symposium

11 December  
University of Cambridge  
The day will consist of 11 oral presentations and keynote talks from industrial and academic chemists. This event is free but all attendees should register no later than by Friday 4 December.  
**Contact Dave Alker**  
+44 (0)7962 929700  
[dave.alker@btinternet.com](mailto:dave.alker@btinternet.com)

## INTERNATIONAL

### China

#### International Symposium on Analytical Biosensors – Xi'an

1 November  
Shaanxi Normal University, China  
This symposium is one of three one-day meetings. Each meeting will feature a selection of lectures covering the properties and applications of biosensors, and provide opportunities to highlight recent developments and to

identify emerging and future areas of growth in this exciting field. This symposium is free to attend.  
**Contact RSC China Events Team**  
+86 (10)5982 2317  
[ChinaEvents@rsc.org](mailto:ChinaEvents@rsc.org)

#### International Symposium on Analytical Biosensors – Changsha

3 November  
New Chemistry Building,  
Hunan University, China  
This symposium is one of three one-day meetings. Each meeting will feature a selection of lectures covering the properties and applications of biosensors, and provide opportunities to highlight recent developments and to identify emerging and future areas of growth in this exciting field. This symposium is free to attend.  
**Contact RSC China Events Team**  
+86 (10)5982 2317  
[ChinaEvents@rsc.org](mailto:ChinaEvents@rsc.org)

#### International Symposium on Analytical Biosensors – Fuzhou

5 November  
Fuzhou University,  
Qishan Campus, China  
This symposium is one of three one-day meetings. Each meeting will feature a selection of lectures covering the properties and applications of biosensors, and provide opportunities to highlight recent developments and to identify emerging and future areas of growth in this exciting field. This symposium is free to attend.  
**Contact RSC China Events Team**  
+86 (10)5982 2317  
[ChinaEvents@rsc.org](mailto:ChinaEvents@rsc.org)

Track income trends in the chemical sciences and [check how your salary compares](#) – with our Pay and Reward Report

We can help you progress your career  
Visit <http://rsc.li/careers-prr>



## India

#### ISACS18: Challenges in Organic Materials and Supramolecular Chemistry

19-21 November  
Indian Institute of Science,  
Bangalore, India  
The conference will bring together exceptional researchers to share scientific developments in organic materials and supramolecular chemistry through a plenary programme, complemented by contributed talks, together with extensive poster sessions that will provide many networking opportunities.  
**Contact RSC Events Team**  
+44 (0)1223 434048  
[events@rsc.org](mailto:events@rsc.org)

## Indonesia

#### Joint Indonesia-UK Conference on Computational Chemistry – with Poster Session in Physical and Theoretical Chemistry

10-11 December  
Institut Teknologi Bandung,  
Indonesia  
The focus for this conference is computational chemistry and it will feature talks showcasing some of the best research from Indonesia and the UK across the breadth of this fundamentally important area. There will be a poster session which will cover broader areas of physical chemistry including computational and theoretical chemistry.  
**Contact Sarah Thomas, Royal Society of Chemistry**  
+44 (0)7825 186291  
[thomass@rsc.org](mailto:thomass@rsc.org)

## Thailand

#### Joint Thailand-UK Symposium on Computational Chemistry

8 December  
Department of Chemistry  
Chulalongkorn University  
Bangkok, Thailand  
The focus symposium will feature talks showcasing some of the best research from Thailand and the UK across the breadth of this fundamentally important area. There will also be a poster session.  
**Contact Sarah Thomas, Royal Society of Chemistry**  
+44 (0)7825 186291  
[thomass@rsc.org](mailto:thomass@rsc.org)

## USA

#### RSC-US Section Annual General Meeting

21 November  
The Princeton Club,  
New York City, USA  
The meeting shall begin with a social, followed by a dinner and then a presentation. The meeting shall also include a short business for the group.  
**Contact Kishore Bagga**  
+1 215 493 4914  
[kkbagga@verizon.net](mailto:kkbagga@verizon.net)

## MIDLANDS

### Other events

#### Education Division – Midlands

#### A Diet Fit for a King? Isotope Analysis of the Remains of Richard III

3 November  
The University of Birmingham,  
School of Chemistry  
A lecture for Sixth Form pupils and their teachers.  
**Contact N Briggs**  
+44 (0)1827 311205  
[briggswmctc@btinternet.com](mailto:briggswmctc@btinternet.com)

#### Education Division – Midlands

#### Advanced Level Chemistry: Ideas for Practical Work. A CPD Meeting

10 November  
King Edward VI High School for Girls, Birmingham  
Teachers will be able to choose from a variety of experiments those to try out and to discuss with other practising teachers.  
**Contact N Briggs**  
+44 (0)1827 311205  
[briggswmctc@btinternet.com](mailto:briggswmctc@btinternet.com)

#### Education Division – Midlands

#### The Periodic Table of Videos

17 November  
The University of Birmingham,  
School of Chemistry  
A lecture / demonstration for Sixth Form pupils and their teachers. Tickets are free but registration is required.  
**Contact N Briggs**  
+44 (0)1827 311205  
[briggswmctc@btinternet.com](mailto:briggswmctc@btinternet.com)

Chemistry Biology Interface  
Division

### 2015 Antibiotic Resistance Mechanisms Workshop

26-27 November  
Holiday Inn, Birmingham City  
Centre

The workshop will offer researchers investigating mechanisms of antimicrobial resistance the opportunity to meet to consolidate and extend their expertise providing a much needed forum to allow the sharing of knowledge between all grades of researchers, including PhD students and technicians.

**Contact Esme Carruthers**  
+44 (0)121 236 1988  
ECarruthers@bsac.org.uk

Education Division –  
Midlands

### Chemical Magic

1 December  
The University of Birmingham,  
School of Chemistry  
A lecture for Sixth Form pupils and their teachers. Tickets are free but registration is required.

**Contact N Briggs**  
+44 (0)1827 311205  
briggswmctc@btinternet.com

## NORTH EAST

### Hull and East Yorkshire Section

#### Top of the Bench

12 November 2015  
University of Hull  
The annual chemistry competition for 14-16 year olds to select a representative school to attend the national final in Loughborough next year.

**Contact Lee Priest**  
01482 667634  
labs@essentialnutrition.co.uk

#### Cafe Scientifique – Mass Extinctions

25 November  
White Horse Inn (Nellies), Beverley  
**Contact Mark Lorch**  
+44 (0)1482 465687  
m.lorch@hull.ac.uk

### Sheffield and District Section

#### Family Evening Lecture: Chemistry in Space

18 November  
University of Sheffield Chemistry  
Department  
Public lecture as part of  
Chemistry Week  
**Contact Jackie Morton**  
jackie.morton@hsl.gsi.gov.uk

### RSC Christmas Schools' Lecture

2 December  
University of Sheffield Chemistry  
Department  
**Contact Jackie Morton**  
jackie.morton@hsl.gsi.gov.uk

## Other events

### The Chemistry of Collaboration

3 November  
Hardwick Hall Hotel, Sedgefield,  
Co Durham  
We've joined forces with the North East Process Industry Cluster (NEPIC) to create an opportunity for chemical science organisations of all sizes, from across the north east and beyond, to meet and network with potential clients and collaborators. The day's focus is the value of collaboration, and there will be talks, presentations and one-to-one discussions on this theme, including a keynote speech by innovation expert Professor Roy Sandbach  
**Contact RSC Events**  
+44 (0)1223 434048  
events@rsc.org

### Careers Consultations: Durham

23-25 November  
Durham Marriott Hotel Royal  
County  
The Royal Society of Chemistry team of qualified careers specialists will be in your area and available for free one-to-one, confidential consultations on any aspect of managing your career. These sessions are available to all our members but we recommended those currently studying at undergraduate level go to their university career service in the first instance.  
**Contact RSC Careers**  
+44 (0)1223 432231  
careers@rsc.org

Education Division –  
North East

### Teacher Network Meeting: Practical Independent Research Projects in Secondary Science

11 December  
University of York  
Recent changes in the assessment of practical work has resulted in considerable interest in the role that practical independent research projects could play in school science. In the session we will explore the implications of the review's findings for practice in school.  
**Contact Lynda Dunlop**  
+44 (0)1904 323442  
lynda.dunlop@york.ac.uk

### Macrocyclic and Supramolecular Chemistry Group Meeting

21-22 December  
University of Durham, Science Site  
Over two days we plan five plenary speakers, numerous invited speakers, a PhD poster session, flash and PhD talks as well as the Bob Hay award lecture. MASC-2015 will be an excellent venue for students to exhibit / discuss their latest results to a truly world-class research collective in an informal and supportive setting.  
**Contact Professor Jonathan Steed**  
+44 (0)191 334 2085  
jon.steed@durham.ac.uk

## NORTH WEST

### Cumbria Section

#### Self Adhesives

12 November  
The Chase Hotel, Whitehaven  
The talk will be given by Stephen Winterbottom of James Walker and is on the history and technology of self-adhesive tapes, covering everything from plasters through masking tapes to packaging tapes.  
**Contact Kevin Webb**  
+44 (0)1946 779264  
kevin.j.webb@nnl.co.uk

### Lancaster and District Section

#### How to Make Gold

24 November  
University of Lancaster  
This is an evening Lecture  
**Contact Harry Clarke**  
+44 (0)1995 640003  
hclarke906@btinternet.com

### Liverpool Section

#### Retired Members' Christmas Lunch

9 December  
Hollins Hey Hotel, New Brighton  
Tickets are £18 and members can bring a guest  
**Contact Dr Bob Lee**  
+44 (0)151 334 7875  
drboblee@msn.com

## Other events

### Speciality Chemicals Sector Chemistry in the Oil Industry XIV Chemistry: Challenges and Responsibilities

2-4 November  
Hilton Manchester Deansgate,  
Manchester  
An International Symposium organised in association with the European Oilfield Speciality Chemicals Association. Special events this year include keynote lectures by Cuadrilla and the Environment Agency.  
**Contact Laura Dickinson**  
+44 (0)1625 540560  
Laura.Dickinson@  
rscspecialitychemicals.org.uk

### Peptide and Protein Science Group Early Stage Researcher Meeting

13 November  
Collingwood College, University  
of Durham  
The one-day meeting is a showcase for PhD students, postdocs and early stage researchers working in any area of peptide or protein chemistry to present their work as either talks or posters. There will be eight to nine oral presentations and a poster session. The day will end with a plenary lecture from Professor David Spring, the 2015 RSC Medimmune Protein and Peptide Science Awardee.  
**Contact Professor Alethea Tabor**  
+44 (0)20 7679 4695  
a.b.tabor@ucl.ac.uk

### Careers Consultations: Manchester

16-18 November  
Mercury Manchester Piccadilly  
Hotel, Manchester  
The Royal Society of Chemistry team of qualified careers specialists will be in your area and available for free one-to-one, confidential consultations on any aspect of managing your career. These sessions are available to all our members but we recommended those currently studying at undergraduate level go to their university career service in the first instance.  
**Contact RSC Careers**  
+44 (0)1223 432231  
careers@rsc.org

## EVENTS

### Chemistry World Jobs Live Manchester

18 November  
Mercure Manchester Piccadilly, Manchester  
At Chemistry World Jobs Live you'll discover the support you need to harness and exploit your talent and ambition. Join us in to meet a selection of employers and take part in discussions and workshops.  
**Contact RSC Events**  
+ 44 (0)1223 434048  
events@rsc.org

### SCOTLAND

#### Glasgow and West of Scotland Section

### Dust, Dirt and Diet – Analytical Science and the Role of Bioaccessibility in Human Health Risk Assessment

11 November  
University of Strathclyde  
Joint lecture of the Andersonian Chemical Society, the RSC Analytical Division Scottish Region, and the Glasgow and West of Scotland Section.  
**Contact Christine M Davidson**  
+44 (0)141 548 2134  
c.m.davidson@strath.ac.uk

#### Mid-Scotland Section

### Top of the Bench

12 November  
Forth Valley College, Falkirk  
Each year teams from local secondary schools engage in a thought provoking practical challenge to determine who will be declared Top of the Bench and then go on to represent Mid Scotland at the UK National Finals.  
**Contact Claude Penman**  
cppenman@supanet.com

### Chemistry Week / Chemistry Makes Scents

21 November  
The Hougate Shopping Centre, Falkirk  
As part of 'Chemistry Week' we are putting on a promotional event, entitled Chemistry Makes Scents. We will be engaging with the public with a hands-on (or should that be noses-on) look at the world of scents and smells.  
**Contact Frank Murray**  
franktmurray@blueyonder.co.uk

### Senior Members Lunch

9 December  
Best Western Park Hotel, Falkirk  
Retired members and their partners are invited. Tickets for the meal, including wine, are £10.00.  
**Contact Douglas McMillan**  
douglas\_mcmillan@hotmail.co.uk

### Shale Oil to Shale Gas – Is Fracking the Future?

25 November  
INEOS Exhibition Centre, Grangemouth  
The main speaker will be Mr Tom Pickering from INEOS. There will be ample time for discussion and questions on the issues raised. This is a joint event with the Scottish Plastics and Rubber Association (SPRA).  
**Contact Scott Jackson**  
+44 (0)1324 483422  
scottjackson@ineos.com

#### Other events

### Science and the Parliament 2015

11 November  
Our Dynamic Earth, Edinburgh  
This year's event will have the theme of Science and the Scottish General Election, given the proximity of the contest next May. The event has run annually since 2000 and attracts an audience across the scientific and Engineering disciplines, MSPs and other policy makers.  
**Contact Bristow Muldoon, RSC**  
muldoonb@rsc.org

#### International Network of Environmental Forensics / Water Science Forum

### Can we Afford not to Monitor Priority Pollutants

24-25 November  
The Royal Society Of Edinburgh  
The aim of this Conference is to bring together leading experts in the field of priority substances listed in Annex X of the Water Framework Directive. The event will discuss potential issues associated with the implementation of the Directive 2013 / 39 / EC relating to Priority Substances in the field of water policy. It will also help to disseminate information on the development and validation of new test methods for monitoring priority pollutants. This meeting will aim to establish what is cost-effectively feasible. The event will showcase emerging innovation and research in the area of priority substance management which will include projects recently awarded development grants through the SBRI call in Scotland.  
**Contact Richard Allan**  
+44 (0)1382 56 8952  
Richard.Allan@hutton.ac.uk

### SOUTH EAST

#### Chilterns and Middlesex Section

### Section Heat for Top of the Bench

17 November  
St. Benedict's School, Ealing  
A chemistry competition for students aged 14-16.  
**Contact Stephen Robinson**  
02085467940  
stephenrobinson\_3@hotmail.com

### Thomas Graham Lecture

20 November  
University College London  
The speaker will outline strategies for climate change remediation by increasing planetary albedo and then focus on the UCL proposal to cover a few percent of the ocean surface with persistent foam.  
**Contact Stephen Robinson**  
+44 (0)208 546 7940  
stephenrobinson\_3@hotmail.com

#### Downland Section

### Top of the Bench

3 December  
Ardingly College, Haywards Heath  
Top of the Bench for this school year will involve four events at schools in Surrey and West Sussex, with the same practicals and multiple-choice questions at each venue.  
**Contact Chris Williamson**  
+44 (0)1372 451499  
chris\_williamson@btopenworld.com

#### Kent Section

### Shepherd Neame Brewery Tour

13 November  
Shepherd Neame Brewery, Faversham  
During this visit you will have an exclusive 80-minute tour of the brewery, a tutored tasting session and an ale supper. There are two staircases on the tour route; therefore, the tour may be difficult for infirm visitors and is not suitable for wheelchair users. A 'virtual tour' with a guide for such visitors can be arranged.  
**Contact Sam Booth**  
+44 (0)7793679884  
s.e.booth@gre.ac.uk

### Lunch and Curling at Fenton's Rink

12 December  
Fenton's Rink, Tunbridge Wells  
As England's only dedicated ice curling rink, Fenton's offers a unique opportunity for people in the south to give curling a go. The cost is £25 per person and is open to members and guests aged over 11. The price includes a hot lunch.  
**Contact Dave Alker**  
+44 (0)7962 929700  
dave.alker@btinternet.com

#### Thames Valley Section

### Pub Lunch

4 November  
The Little Angel, Remenham, Henley  
Pub lunch for Senior Members.  
**Contact John White**  
+44 (0)1491 872371  
john.869white@btinternet.com

### Pub Lunch for Senior Members

12 November  
The Victoria Arms, Old Marston, Oxford  
**Contact John White**  
+44 (0)1491 872371  
john.869white@btinternet.com

#### Other events

### Marketing Group Silicones – their Chemistry, Applications and Markets

2 November  
Royal Society of Chemistry, Burlington House  
Characterised by low toxicity and reactivity, coupled with excellent thermal stability, high gas permeability, UV resistance and low surface energy, silicone is the polymer of choice in many applications. These include construction, electronics, waterproofing, food, pharmaceutical, beauty products and foam control. The synthesis of millions of tonnes of silicone per annum will be explored as will the relationship between its unique chemistry and uses.  
**Contact Julian Perfect**  
julianperfect@hotmail.com

**Inspire to Teach**

3 November  
University of Reading  
Teaching is a rewarding and exciting career. You get to inspire and enthuse the next generation and make a real difference. The event will include speakers such as a tutor from a science teacher training course, a current trainee and a representative from the Royal Society of Chemistry. The event is suitable for undergraduates and postgraduates considering a career in teaching.

**Contact Katie Nuttall**  
+44(0)118 378 8454  
k.m.nuttall@reading.ac.uk

**Biological and Medicinal Chemistry Sector****1st RSC / SCI symposium on Fibrosis Disease: Medicinal Chemistry Progress from Biological Target to the Clinic**

10 November  
UCB, Slough  
Fibrosis disease pathology is often complex and this inaugural symposium on fibrosis will provide mechanistic insight and progress in medicinal chemistry and drug discovery from experts across the world.

**Contact Maggi Churchouse**  
+44 (0)1359 221004  
maggi@maggichurousevents.co.uk

**REACH Registration: Are you Ready for 2018?**

17 November  
The Royal Society of Chemistry, Burlington House, London  
Everyone that manufactures or exports a chemical substance within the EU is likely, to some extent, to be affected by REACH (the Regulation of Registration, Evaluation, Authorisation and Restriction of Chemicals). If you have a basic understanding of these regulations but need to know more about the complex registration process for the 2018 deadline, we can help. We've joined forces with REACHready to give you the training you need. Small workshop training sessions will make sure you get the most out of the day with plenty of opportunities in the breaks to chat with our presenter and get your company-specific questions answered by a REACH expert.

**Contact RSC Events Team**  
+44 (0)1223 434048  
events@rsc.org

**Analytical Division – East Anglia****Perspectives on Analytical Data Integrity in a Pharmaceutical Quality System**

17 November  
The Royal Society of Chemistry, Burlington House, London  
This seminar will focus on the forms of data generated and the associated challenges in the pharmaceutical / biopharmaceutical GMP regulated Quality Control laboratory environment and will examine the impact of the MHRA Guidance for Industry regarding the maintenance of GMP data integrity throughout its lifetime. The seminar will be of interest to Laboratory Managers and Scientists, QA / IT Personnel and QPs working in these regulated areas.

**Contact Brian Woodget**  
+44 (0)7899 910954  
bwoodget1@sky.com

**Law Group****IP Case Law Seminar**

18 November  
The Royal Society of Chemistry, Burlington House, London  
The annual seminar will focus on recent high profile intellectual property law developments in the field of chemistry. The seminar will conclude with a networking drinks reception. The RSC Law Group annual general meeting will precede the seminar.

**Contact Maggi Churchouse**  
+ 44 (0)1359 221004  
maggi@maggichurousevents.co.uk

**Chemistry Biology Interface Division / Environment, Sustainability and Energy Division****Renewable Chemicals from Waste – Securing the Molecular Value from Waste Streams**

20 November  
The Royal Society of Chemistry, Burlington House, London  
As we face increasing levels of waste produced by a growing global population, with decreasing natural resources, we need to change our thinking about waste. The UK Government's recent report, Building a high value bioeconomy – opportunities from waste, highlights the need to view waste as a resource and to develop processes to better exploit under-utilised agricultural and municipal wastes in preference to the use of virgin biomass or fossil resources. Our symposium brings together chemists, biologists, engineers and other experts to discuss research developments. It will provide a focus for industry, funding agencies

and academic researchers to come together to build the necessary collaborations to take the next steps forward.

**Contact RSC Events Team**  
+ 44 (0)1223 434048  
events@rsc.org

**Chemistry World Jobs Live London**

25 November  
The Royal Society of Chemistry, Burlington House  
At Chemistry World Jobs Live you'll discover the support you need to harness and exploit your talent and ambition. Join us to meet a selection of employers and take part in discussions and workshops.

**Contact RSC Events Team**  
+ 44 (0)1223 434048  
events@rsc.org

**Separation Science Group****What can Ion Mobility do for me?**

26 November  
The Royal Society of Chemistry, Burlington House, London  
**Contact Sam Whitmarsh**  
01189765480  
samuel.whitmarsh@bp.com

**Organic Division Poster Symposium**

30 November  
The Royal Society of Chemistry, Burlington House, London  
The symposium offers final year PhD students a chance to showcase their research to their peers, leading academics and industrial chemists, and is open to all branches of organic chemistry.  
**Contact RSC Events Team**  
+44 (0)1223 434048  
events@rsc.org

**Energy Sector****Early Career Energy Sector Chemists Symposium**

2 December  
The Royal Society of Chemistry, Burlington House, London  
All chemists working in the energy area in the early stages of their careers are invited to attend. The Energy Sector invites abstracts from younger members from academia and industry for a competition for posters to be displayed during this event.  
**Contact Paul Brack**  
+44 (0)1509 263171  
p.brack@lboro.ac.uk

**Macro Group UK / Polymer Physics Group Electrosinning: Principles, Practice and Possibilities**

3-4 December  
The Hallam Conference Centre, London  
The fourth in a highly successful series of international conferences dedicated to the science of electrospinning and the science supported by electrospinning. All disciplines are welcome.  
**Contact Geoffrey Mitchell**  
+44 (0)7768 978014  
geoffrey.mitchell@ipleiria.pt

**Marketing Group****Why Marine Omega 3 Fatty Acids are Important for the Human Brain**

7 December  
The Royal Society of Chemistry, Burlington House, London  
Dr Rob Winwood will talk about Omega 3 fatty acids derived from the sea, and how these compounds can be of benefit to the dendrites in your brain. This event is free to attend and all are welcome.  
**Contact Julian Perfect**  
julianperfect@hotmail.com

**The New GCSE Specifications – Which Course is Right for your Students?**

11 December  
The Royal Society of Chemistry, Burlington House, London  
With all the changes that have taken place in the GCSE curriculum, which course is right for your students? Meet the three main exam boards to hear about their changes and to discuss with them whether their specification is right for you and your students. You will hear a general overview of the changes that are happening and the reasons why the changes have been made.  
**Contact Chrissie Maitland, RSC**  
+44 (0)20 7440 3367  
maitlandc@rsc.org

**NMR Discussion Group Christmas Meeting 2015**

15 December  
Birkbeck College, London  
It is anticipated that the meeting will appeal to postgraduates, early career research workers, and established or retired NMR spectroscopists associated with any magnetic resonance related discipline in either academia or industry. The event will provide opportunities to revisit or learn about NMR past, but also to maintain an awareness of current developments in emerging areas of NMR.  
**Contact Stephen Byard**  
+44 (0)1665 608544  
info@nmrdg.org.uk

## SOUTH WEST

## Mid-Southern Counties Section

## Solving the Zeolite Conundrum

18 November  
University of Southampton  
Professor Russell Morris, University of St Andrews, will present his Peter Day Award lecture. Zeolites are extremely important materials in many different applications, from catalysis in oil refining and automobile exhaust transformations, all the way through to ion exchange and medicine.

**Contact Jon Kitchen**  
email: j.a.kitchen@soton.ac.uk

## Thames Valley Section

## Chemistry Week – Chemistry Detective Trail

21 November  
Chemistry Detective Trail  
A chemistry detective trail across Reading, joining times and locations to be announced.

**Contact John Oversby**  
oversby61@gmail.com

## High Tea Chemistry

8 December  
An interactive presentation on chemistry at tea time, targeted at families and adults who wish to engage with young people. Especially related to chemistry that might be known by 9-16 year olds.

**Contact John Oversby**  
oversby61@gmail.com

## WALES

## South East Wales Section

## Molecular Organisation: Working with Molecules on the Nanoscale

2 November  
Cardiff University  
The lecture will be given by Professor Neil Champness.  
**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## Directing the Synthesis of Functional Molecular Materials

9 November  
Cardiff University  
The lecture will be given by Dr Kim Jelfs.  
**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## Following Photochemical Reactions on a Femtosecond Timescale

16 November 2015  
Cardiff University  
The lecture will be given by Professor Helen Fielding. It will start at 16:00 and last for approximately one hour. No registration is required, but parking at the venue is limited so contact the organiser in advance if parking is needed.

**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## The Role of Criegee Intermediates in Tropospheric Chemistry

23 November  
Cardiff University  
The lecture will be given by Professor Carl Percival.  
**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## Artificial Photosynthesis

30 November  
Cardiff University  
The lecture will be given by Dr Erwin Reisner.  
**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## Early-stage Catalytic Conversion of Lignin: The Key to Lignin Valorisation

7 December  
Cardiff University  
The lecture will be given by Dr Roberto Rinaldi.  
**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## Bespoke Crystals: From Colour to Evolution

14 December  
Cardiff University  
The lecture will be given by Professor Fiona Meldrum.  
**Contact James Redman**  
+44 (0)2920 876 273  
redmanje@cardiff.ac.uk

## Notices

## Joliot-Curie Conference 2015

Ninety delegates joined for the annual Joliot-Curie Conference, which took place in the Kaetsu Centre at the University of Cambridge's Murray Edwards College.

Joliot-Curie is set apart from regular conferences as delegates have the chance to consider their career progression and relate personally to guest speakers and their career stories. The conference supports the aspirations of early career chemists, particularly those who are under-represented in research careers, in academia, or in industry. In addition to presentations, the conference features small group discussions and one-to-one mentoring.

The speakers included Professor Nazira Karodia of the University of Wolverhampton, who spoke movingly about the challenges she faced in her career in chemistry, from growing up under apartheid, through mapping her career to her newest role in science education. Professor Jane Clarke, Dr Cecilia Fenech Brincat, and Professor Nessa Carey, shared their stories of career pathways with an extraordinary range of different steps and challenges.

Professor Alison Rodger, Tinu Cornish, and Professor David Smith, explained their experiences of addressing biases in different environments, and some of the solutions they have found. Hanadi Jabado discussed how to make a positive mentor-mentee relationship. RSC staff Julie Franklin and Charlotte Ashley-Roberts gave expert tips in how to navigate through a career, and how to learn to network even if it is not something that comes naturally.

Dr Nick Bampos of the University of Cambridge encouraged delegates to use their experience and decide what they were going to be great at. Dr Helen Pain, Deputy Chief Executive of the Royal Society of Chemistry closed the conference, telling the delegates that they can be part of the change that is needed to make workplaces more diverse, and reminding them to aim high, set long-term goals, and not to be afraid to ask for help when they need it.



◀ Professor Nazira Karodia, speaking at Murray Edwards College in Cambridge.

▼ Sessions included a panel discussing *Multiple Pathways to Success*.



## Breathe Freely at Burlington House

Burlington House hosted a public performance of the chemistry-inspired opera, *Breathe Freely*, on 13 October. The chamber opera, with three singers and three musicians, was commissioned by the University of Edinburgh Chemistry Department to mark its 300th anniversary.

The opera is a semi-fictional account of the experiences of the Polish chemist Stanislaw Hempel, who was given a place in James Kendall's lab at the university during the second world war. It also features Christine Miller as a character, who composer Dr Julian Wagstaff (pictured right) describes as a 'trailblazer for gender equality'. "It was important to me to come to Burlington House," he says, "As it's the beating heart of chemistry in the UK. I hope to take chemistry to a new audience, and it was through the RSC that my association with chemistry began."

Having previously composed a chamber opera about the Turing test for computers, Wagstaff first became involved with chemistry when he was commissioned by our Edinburgh and southeast Scotland local section to write a piano trio to celebrate the International Year of Chemistry in 2011. A recording of the piano trio is also featured on the *Breathe Freely* CD released in mid-October.



© COLIN HATTERSLEY

## Successful RSC sponsored symposium on clean energy materials

The RSC Solid State Chemistry Group sponsored the successful 2nd Energy Materials Symposium held at the University of Bath on 17 September. More than 80 delegates attended the event on sustainable materials for green energy applications.

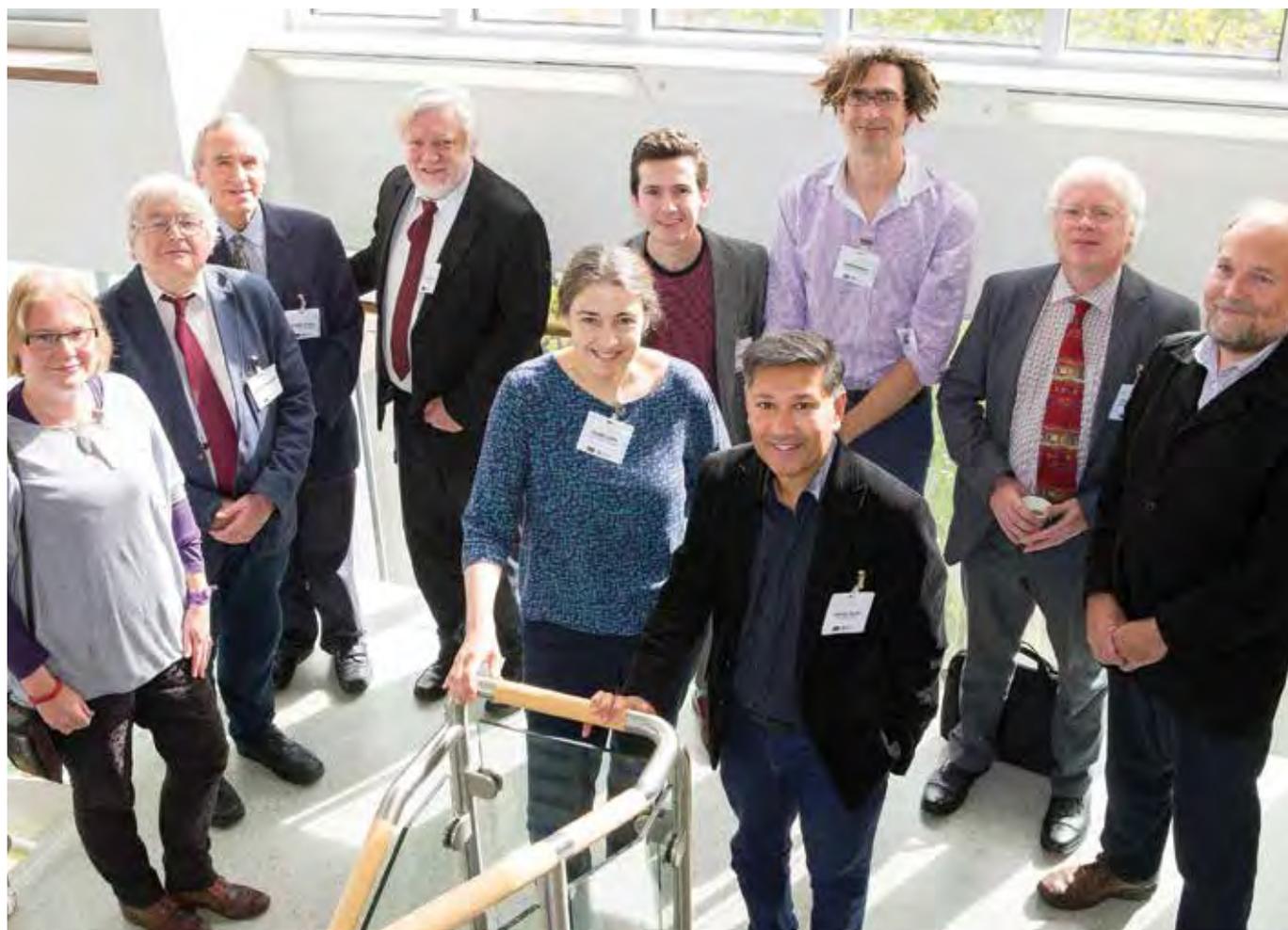
The symposium was part of an EPSRC Programme Grant on Energy Materials: Computational Solutions led by Professor Saiful Islam FRSC that supports a five-year project to develop new materials for the next generation of energy devices, including more efficient solar cells for homes and better batteries for electric cars.

The invited speakers were Professor Clare Grey from Cambridge, Professor John Irvine from St Andrews, Professor Bob Freer from Manchester and Dr Piers Barnes from Imperial College London.

Saiful said: "This conference brought together researchers working on the materials science of green energy technologies such as solar cells, lithium batteries and fuel cells.

"The meeting was designed to showcase research in this important field and to encourage new collaborations, especially between computational and experimental groups."

**Consortium team and keynote speakers. Back (left to right):** Emma Kendrick, Richard Catlow, Bob Freer, Steve Parker, Aron Walsh, Piers Barnes, John Irvine, Paul Sherwood. **Front (left to right):** Clare Grey, Saiful Islam.



© UNIVERSITY OF BATH / SAIFUL ISLAM

## Kavli Award Lecture

Professor Sir John Holman was awarded the 2014 Kavli Education Medal in recognition of his significant impact on science education within the UK. The Kavli Education Medal is awarded by the Royal Society biennially for 'an individual who has made a significant impact on science or mathematics education within the UK'.

On 15 October, Sir John delivered his lecture to a packed house of fellow science education experts, posing ten crucial questions for science education – about teachers, teaching, curriculum, and assessment. He suggested that more time should be spent considering who science education is for given the shortage in STEM skills, and said more time should also be spent considering the ratio of content to process in science education, when both are needed.

The recipient of the Kavli Education Medal is chosen by the Council of the Royal Society on the recommendation of the Education Committee. On being chosen, Sir John said: "As a member of the Royal Society's Vision Committee, looking at the future of science and mathematics education, I know the high regard in which the Society is held. To have won its premier education award is an honour indeed for someone who has worked in science education for his entire career."

## Wheeler Lecture reflects on steadfast Beddoes

Professor Frank James, Professor of the History of Science and Head of Collections at the Royal Institution, was presented with the Wheeler Award at a meeting of the Historical Group. This award celebrates the outstanding contributions of an individual to chemistry and funds a Wheeler Lecture, given approximately every two years.

Frank's lecture was a fascinating tale of the late 18th century efforts of the science writer and physician, Thomas Beddoes, to gain recognition for his new medical technique, the inhalation of recently discovered gases such as nitrous oxide, which he believed could cure diseases such as tuberculosis, scurvy and even cancer.

The evidence suggests that the treatment was ineffective, but Beddoes' life is nonetheless an impressive and pertinent story of determination in the face of staunch political opposition and fundraising failures.



© ROYAL SOCIETY OF CHEMISTRY

## Teaching and learning exchange in Lahore

Dr Ashraf Chaudhry visited Customs Public School in Lahore, Pakistan to meet students and discuss teaching and learning styles with the teachers. The school caters for young learners from play group to Matric and O-Level. It's run by professionally trained teachers, who cater for bringing the best out of the children.

Dr Chaudhry addressed all of their teachers and administrative personnel to motivate them and suggest measures to enhance their teaching skills leading to an open session where they discussed ideas to modify the existing teaching and learning style. Students also expressed their views, and prizes were given for the best speakers. There was a science focus for two days of activities by girls and boys of primary level. An exhibition of their science projects and a range of hands-on activities were designed to encourage them to consider careers in science.



© DR ASHRAF CHAUDHRY

## Join us at our regional meetings in 2016

Regional meetings are held once a year from January to March, in all of our regions throughout the UK and Ireland. They are an opportunity for members who volunteer on our Local Sections, Interest Groups, Analytical Division Regions, Early Career Network, Division councils, as an RSC Representative or as a Benevolent Fund Representative to find out more about our strategic goals and activities throughout the previous year. There is also the chance to meet RSC employees and representatives of our Council.

Attendance at the meetings is by invitation only, but any interested member can apply to attend. The next round of regional meetings will take place early next year – more information on the location and venues will be circulated shortly. If you have any questions about these meetings or whether you are eligible to attend, please email [networks@rsc.org](mailto:networks@rsc.org)

## Students scoop quiz prizes

September's student member engagement quiz had the theme of Sunshine and Light. The three winners of £20 Amazon vouchers are

- Frank Hauser, University of Hull
- Sam Rowe, University of East Anglia
- Renee Munayi, University of Nairobi

Congratulations to them, and watch out for another quiz on MyRSC before the end of the year.

# Admissions – September 2015

## Fellow

Steve Francis Albert Acquah, Bo Albinsson, Thomas Albrecht-schmitt, Janice Aldrich-Wright, Paul Anastas, Nigist Asfaw, Mariam Aslam, Dhirendra Bahadur, Stefan Baier, Luis Banares, Mihail Barboiu, Charles Bavington, Elaine Baxter, Judith Bennett, Maria Dolores Bermudez Olivares, Ger Brophy, Michael Burkart, Andrew Calabrese, Felix Castellano, Fabrizio Cavani, Adrian Benjamin Chaplin, Qijin Chi, Ib Chorkendorff, James Christie, James Stephen Clark, Andrew Coble, Julia Clare Cooper, Graham Cox, Philip Crouse, Yi Cui, Anthony Curtis, Scott John Dalgarno, William Ian Fraser David, Michael Davidson, Jeffrey Deakin, Eric Demoncheaux, Francis D'Souza, James Dumesic, Lyndon Emsley, Peter C Ford, Terunori Fujita, Yang Gan, Ute Gerhard, Arun Ghosh, Sivakumar Gowder, Bir Barry Gujral, Tatiana Guseva, D Flemming Hansen, Jason Harcup, Michael Harrison, John Hartley, Hermann Hauser, Martina Havenith, Raymond Thomas Hemmings, David Hodgson, Zhaochu Hu, Ashley Jarvis, Phillip Jessop, Lars Jeuken, Nicholas Johnson, Barry Jones, Winifred Michaela Jordan, Christian Oliver Kappe, Labib Kawar, Vitaliy Khutoryanskiy, Mihkel Koel, Samuel Kounaves, Aiwen Lei, HungYin Lin, Alexander Livesey, Yi Lu, Rafael Luque, Jun Ma, Jeffry Madura, John McCullagh, Alistair Miller, William H Miller, Steven Mitchell, Wonwoo Nam, Yukihiko Ozaki, Hari Pati, Nigel Perry, Rajesh Babubhai Rathod, Neil Rees, Philip Robinson, David S Rueda, Andrew Sabuneti, Richmond Sarpong, Tahir Shah, Martyn Shenton, Tetsuya Shishido, Nico AJM Sommerdijk, Kay Bridget Sowerby, Shalini Srivastava, Vikki Stone, Charles Sykes, Tsunehiro Tanaka, Jean-Marie Tarascon, Natalia Tarasova, Wim Thielemans, Ravindra Venkatramani, Debra Wallace, Mark Wallace, Mark Timothy Weller, Richard Wheatley, Chi-Huey Wong, Daniel Robert William Wood, Chuanlai Xu, Xiu-Ping Yan, Yue Zhang, Lizhong Zhu, Julie Beth Zimmerman.

## Member

Mohd Azri Ab Rani, Daniel Abaye, Hassan Abdelgawad, Reda Abdelhameed, Mostafa Abdine, Sahar Abouseri, Sarah Agnew, Javier Agullo Pastor, Frederick Usiholo Akhigbe, Professor Akhmaloka, Jenefer Alam, Shirin Alexander, Ali Alsaadi, Pazhamalai Anbarasan, Rita Anggraini, Amal Aoun, Lorna Ashton, Sean J Ashton, Michael Attwood, Samantha Auty, Craig Alex Avery, Melanie Bailey, Dimitris Balmpakakis, Hugo Miguel Baptista Carreira Dos Santos, Reham Barghash, Richard Barlow, Margaret Barrass, Aliou Hamady Barry, Nathan Jay Bartlett, Jason Beasley, James David Belcher, Victoria Bemmer, Attila Bende, Nick Bennett, Ramakrishna G Bhat, Nitu Bhatnagar, Rituparna Bhattacharjee, Shubhankar Bhattacharyya, Neil Richard Birkett, Cezar Bizzi, Kevin Blakley, Bela Ernest Bode, Marcus Bohm, Alexander Bondke, Fiona Boorer, Stefano Bovino, Samantha Bowerbank, Roberto Javier Brea Fernandez, David Brewis, Alex Brogan, Christopher Brown, Debbie Brown, Professor Buchari, Ariela Burg, Rama Byravan, Ricky Cain, Carl Campbell, Emma Carswell, Duncan Casey, Hamish Cavaye, Cindy Cham, Aled Charles, Elaine Cheatham, Yao Chen, Gaojian Chen, Iryna Cherpurna, Nicolas P Cheval, Nicholas Frederick Chilton, Jia Min Chin, Yuk Lin Chiu, Rasheduzzaman Chowdhury, Azhar Zafeer Chughtai, John Clancy, Joanna Clark, Richard Clarke, Adiel Coca, Eleanor Collins, Jonathan Steven Collins, Robert Comer, Thomas Constable, Ashleigh Cooper, Richard Cooper, Grant Copeland, Samuel Cox, Patricia Ann Cox, William Bruce Craig, Derek Crawford, Trevor Critchley, Stephen Michael Crowley, Carol Alison Smith Curran, David Cwiertny, Dipanwita Das, James Davies, Rebecca Davis, Tom Davis, John Davison, Henry Day, Roberto De La Rica, Simon Dent, Darren Derksen, Ratna Dewiyanti, Sandip Dhara, Yuri Antonio Diaz Fernandez,

Jennifer Dodson, William Doherty, Margaret Downs, Sara Duarte Martinez, Martin Dyer, Keith Earnshaw, Kyriakos Efkarpidis, Tennyson Ekwuru, Leah Eller, Jacqueline Elliotthowell, Mahmoud El-Shahat, Thomas Esterle, Delwyn Roger Evans, Nicole Jane Fenwick, Ross Fitzgerald, Karen Flanagan, Elliot Fleet, Victoria Fleetham, Pasquale Folgheraiter, Thomas Gale, Ranga Rao Gangavarapu, Junkuo Gao, Jennifer Garden, Vincent Gardner, Caro Garrett, Petrina Garton, Ana M Geer, Alex Gillham, Shona Glancy, John Gleeson, Sarah Gold, Amanda Goode, Sekar Govindasamy, Matthew Gray, Mark Greenough, Claire Gregg, Rian Griffiths, David Gunn, Stephen Hacker, Robert Hackett, Bouchra Hajjaj, Lukman Hakim, Euis Holisotan Hakim, Haliru Haliru, David Harbottle, Carlos Harrison, Neil Harrison, Charles Harrison, Lynsey Harrower, Adam Robert Hegarty, A K Ola Hekselman, Katherine Hewitt, Victoria Hilborne, Jemma Hinchliff, Jerina Hisham Zain, Ben Hodgson, James Holder, Barnas Holil, Jane Holmes, Jarle Holt, Peter Howe, Jonathan Huddleston, Mohammad Humadi, Robert Iafe, John Igoli, Dr Ihsanawati, Ramakanth Illa, Graham Illing, Richard Ilsley, Phillip A Inglesby, Thompson Izuagie, Charlotte Louise Jones, Michael Jones, Essam Kabbary, Saswata Karmakar, Fergus Kenny, Armin Kiani, Geraldine Kitley, Sanjit Konar, Wai Shung Lam, Edward Larkin, Christopher Law, Lewis Lawn, Mari Lawson, Hongyen Le, Kim Chai Lee, Luter Leke, Wei Li, Jane Ann List, Valerian Lobo, Victoria Lovett, Niall Mac Dowell, Kay Macdonald, Mohamed Said Mahmoud, Ryan Malcolmson, Muhammad Malik, Aditya Malkar, Andrew Maloney, Harsh Manchanda, Fredryk Mandey, Joe Manzi, David Marsh, Richard Marsh, Hayley Marshall, Antonio Jesus Martinez-Martinez, Iris Martino Trimino, Eric Masika, Hazem Matar, Sandra Matias, Gawain Mccoll, Jonathan Mccree-Grey, Joanna Mcgouran, Cheryl McMahan, Elisa Mele, Claire Messenger, Rezwana Miah, Laura Mitchell, Janine Marie Montero, Duncan Moore, Byron Morgan, Benjamin Morgan, Leah Morris, Laura Mossop, Sara Muhler, Peter Richard Mullens, Irma Mulyani, Misbah Mumtaz, Kim Munro, Sarah Murray, Ellen Mwenesongole, Steven Mycock, Anupriya Naik, Dessy Natalia, Amit Nathubhai, Christopher David Nattrass, Georgina Samantha Nelson, Stephanie Hope Newland, James Nobbs, Santi Nurbaiti, Vincent O Nyamori, Mohammed Kamal Obada, Maicol Arley Ochoa, Helen Olayinka Ogunsuji, Thomas Oliver, Martin Opiyo Onani, Chionyedua Theresa Onwordi, Mei Lee Ooi, Fabrizio Ortu, Jade Owen, Temidayo Timothy Oyetunde, Thomas Palmer, Shubha Pandey, Monika Papworth, D Paradesi, Francesca Paradisi, Emily Parker, Michael Parkes, Dixit Parmar, Bhaven Patel, Nitin Patil, Appa Rao Patra, Emma Paviour, Stuart Pearson, Jason Pearson, Darryl Percival, Sofia Perez Villar, Yessi Permana, Trinh Thi Doan Pham, Bojana Popovic, Danai Poulidi, Jonathan Powis, Peter Pratelli, Laura Prieto-Sanchez, Mark Prior, Robert Procter, Sridhar Radhakrishnan, Muhammad Saifur Rahman, Maria Rangel, Jeffrey Leslie Redmayne, David Rees, Emma Regardsoe, Melanie Reichelt, Julian Relton, Rajesh Rengarajan, Fiona Revell, Jennifer Kathryn Richards, Joanne Rimmer, John Robertson, Anthony Robinson, Richard Robson, Michael Rogers, Sarah Rogers, Robby Roswanda, Priyadarshi Roy Chowdhury, Jennifer Rudd, Adam Russell, Na'il Saleh, Prabhakar Sastri, Setukumar Savsani, Micheal Scanlon, Agnieszka Scibior, Manimaran Sellappan, Mahesh Kumar Selvaraj, Samir Shah, Ahmer Shah, Ashif Shaikh, Savita K Sharma, Chandra Shekhar Sharma, Andrew Sharp, Jayne Shaw, Zongbo Shi, Priyanka Shinde, Madhuri Vikas Shinde, Lena Shukla, Steven Siddell, Elizabeth Anne Louise Siese, Anna Simpson, Ishwar Singh, James Singleton, Jitnapa Sirirak, Sreekanth K Sivaraman, Mark Andrew Skerritt, David Smith, Andrew Smith, Lynette Smyth, Catherine Diamante Sorbara, Sharad Srivastava, Joanna Stevens, Isabella Stocker, Emma Stowell, Samuel D Stranks, Karen Stroobants, Gemma Melanie Sweeney, Yana Maolana Syah, Lee Talbot, Bai Jia Tang,

## ADMISSIONS

Alan Tatham, Nicholas Taylor, Robert Thatcher, Jill Thomson, Neil Thomson, Clare Thorpe, Shraeddha Tiwari, Blagovesta Tomova, Sam Towers, Claudio Trapella, Natasha Tucker, Matshawandile Tukulula, Elizabeth Tulum, Alice Turnbull, Ahmed Umar, Sandra Van Meurs, Kevin Vincent, Eddy Viseux, Brian Wailes, Dominic Wales, Stephen Wallace, Julia Wang, Edward Wawn, Matthew Weaver, Guy Christopher Weaver, Christopher Wedge, Catherine Weetman, Anna Werno, Nathan White, Steven Wilcock, Louise Wilkinson, Christopher Wilkinson, Mildred Williams, Ian Willoughby, Iain Wilson, Andrew Wood, Simon Wood, Philippa Wood, Chris Woollin, David Worton, Ashley Wragg, Manavi Yadav, Pratik Yadav, Elsayed Zaki, Elizabeth Zammit, Salvatore Zarra, Yiling Zhang, Weizheng Zhou.

### Associate Member

Barak Aaronson, Samih Abadir, Noreldin Abdolla, Preshit Abhyankar, James Ablett, Mohamad Anas Abou Shamat, Gbadebo Adeyinka, Shams Tania Afroza Islam, Babatunde Kazeem Agbaogun, Akansha Agrawal, Ukpe Ajima, Fady Akladios, Samson Akpotu, Mohammed Aladhami, Rose Alani, Rima Alharthy, Nazish Ali, Sherif Ali Younis, Yasmin Aljanabi, Ahmed Alkarimi, Nouman Almofti, Huda Alsalem, Mohammed Abdulredha Atouf Altahan, Marco Amores Segura, Greg Anderson, Antonio Angelosanto, Mariglen Angjellari, Anamaria Ariciu, Jude Nithelan Arokianathar, Matthew Aronoff, Kaana Asemave, Sov Atkinson, Ramla Awais, Andinet Ejigu Aynalem, Rory Alexander Back, Alastair Baker, Leonardo Baldassarre, Rebekah Balshaw, Timothy Berndt, Andrew Barker, Thomas Barnard, Jonathan Barnes, Cem Bayram, Stephanie Beaver, Sultan Ben Jaber, Toby Benham, Helen Benjamin, Sushil Benke, Elizabeth Bennett, Aditya Bhattacharyya, Alessandro Bismuto, Dror Bittner, Alexander Blanazs, Jacques Blignaut, Olesya Bondarenko, Youcef Boubalouta, Kaouther Bouzinab, Stefano Brenna, Nicholas Anthony Brincat, Jackie Brookling, Etienne Volcan Brouillet, Patrick Brown, Ameya Burde, Andrew Burgoyne, Richard Burke, Joseph Byrne, Azhar Carim, James Carter, Adam Carthy, Lucy Cartwright, Yin Lok Enoch Chan, Sin Yuen Chang, Cecile Charbonneau, Rebecca Louise Charlton, Phillip Robert Anthony Chivers, Scott Anthony Clarke, Chris Colclough, William Compel, Ben Coulson, Doretta Cuffaro, Rachael Cullinan, James Thomas Curtis Jr, Son D N Luu, Divya Dahiya, Laura Elizabeth Daly, Abigail Dalzell, Christopher Dancy, Alessandra D'angelo, Boakye Danquah, Matthew Davey, Charlotte Davies, Charlie Davis, Irene De Silvestro, Christopher Delaforce, Girdhar Singh Deora, Darren Devlin, Simona Di Blasio, James Dix, William Dixon, James Dixon, Amar Dora, Rebecca Doran, Zsanett Dorko, Fabio Henrique Dos Santos Rodrigues, Denisa Dosenovic, Colin Doyle, Justine Dutton, Ifeoma Ebinumoliseh, Justin Elliott, Radwa A Elsalamony, Mohamed M Elsutohy, Cigdem Erenel, Matthew Evison, Asmaa Fahim, Simon Fairbanks, Joshua Farndon, Amy Farrell, Chitra Faulkner, David Fazakerley, Huanhuan Feng, Rebecca Fennessy, Calum Ferguson, Chamira Dilanka Fernando, Vikki Filsell, Aaron Finney, Shi Min Fong, Harry Fox, James Frost, Maya J Frost, Catherine Jane Fuller, Ahmed Gaha, Dona Thanuja Lakmali Galhena, Daniel Gaskell, Rashmi Gaur, Brian Gaynor, Dawei Geng, Liam Gillan, Dermot Gillen, Caroline Glover, Stephen Gonski, Jack Goode, Thomas Grazier, Jiangjiang Gu, Anastasia Gulenko, Saloni Gupta, Raj Gurung, Adam Haig, Daisy Hall, Kane Hands, Kaylie Haynes, Michael Heeran, Darren Heeran, Elvira Hermawati, Felix Hermerschmidt, Ian Heron, Shane Hickey, Peter Hill, Mohamed Hlila, Manuela Hollering, Jessica Holmes, Katherine Hooper, Emily Horrocks, Md Reduanul Hossain, Camille Hoteit, George Hughes, Haytham Hussein, Mervat Ibrahim, Nnemeka Edith Ihegwuagu, Ofure Imoisi, Reinner Ishaq Lerrick, Muhammad Nazrul Islam, Shahryar Jabrallah, Arti Jagtap, Thomas James, Annelise Jeanfulcrand, Carl Jenkinson, Gichumbi Joel Mwangi, Livia Kalossaka, Joanna Kamieniak, Nuntaporn Kamonsutthipajit, Laila Kamoune, So Kan, Mahesh Kancherla, Georgina Karecla, Steven Kay, Punarja Kevin, Mohd M Khan, Edmund Kirwan, Martha Charlotte Kohlhaas, Mavis Koranky, Maadhav Kothari, Merve Kuloglu, Kritika Kumar,

Eru Kyeyunenyombi, Lucy Lahrita, Carl Lange, Luca Laraia, Abbas Lawal, Jia Yin Lee, Lawrence Lee, Seung Yeon Lee, Alexander Leeder, Xinxing Liang, Sook Yee Liew, Yanna Liu, Marianna Loizzi, Veliyana Londong Allo, Brooke Longbottom, Anthony Luke, Calum Macaskill, Silvia Madeddu, Elvis Jan Michael Maduli, Maria Magro, Jordan Kevin Magtaan, Payam Malek, Dave Mangindaan, Preethi Marimuthu, Suzana Markolovic, Nicholas Mason, Laura Mason, Sunil Mathur, Solomon Matongo, Emma Louise Matthews, War War May Zin, Simona Mazza, Juniza Md Saad, Nathalia Medeiros Carneiro, Yati Mehta, Joshua Phillip Mehta, Adam Michalchuk, Tamara Mielke, James Million, Fosca Mirata, Rahma Mirreh, Noordini Mohamad Salleh, Ruzniza Mohd Zawawi, Reham Mohsen Momee, Rory Moir, Camilla Moller, Mojtaba Momeni, Serena Monaco, Wouter Mooij, Daniel Paul Mould, Rachel Mowll, Musa Mpelwa, John Mullaney, Imalka Munaweera, Chidinma Muobike, Kathryn Murray, Sanjay Nagarajan, John Kaabale Nangaka, Mamona Nazir, Antony Nearchou, Sridhar Neelamraju, Nisachol Nerngchamngong, Kim Hong Ng, Evita Ning, Ahi Nitkunan, Samuel Nwoguubani, Maria O'Brien, Maria Okwudili Okata, Harrison Omorodion, Amaka Joy Onyianta, Oluwatosin Elizabeth Orimogunje, Rhodri N Owen, Nathan Mayora Oyaró, Hector Henry Oyem, Maria Palassarou, Rishikesh Pandey, Leonardo Pantoja, Adam Parry, Daniel Paterson, Sureyya Paterson, Marloes Peeters, Anuchit Phanumartwiwath, Paschalina Pistokoulou, Rachel Platel, Venkatesh Poojari, Helen Powell, Amy Price, Danae Prokopiou, Jamie Purkis, Michael Qiu, Sayeeda Qureshi, Harry Rackham, Waliur Rahman, Laurance Ramsey, Zenobia Rao, Zainab Rassoul, Daisy Ray, Aniruddha Ray, Juana Elizabeth Reyes Martinez, Gabriel Jose Reyes-Rodriguez, Jack Rice, Valerie Jean Jeanne Ries, Katarina Rigdova, Michael Roberts, Joshua Rogers, Andrew Sadler, Muhammad Saleem, John Sandford, Anuson Sansi, Nicolo Scalacci, Katrina Scanlan, Andrea Schmidt, Amy Scolah, Irene See, Alison Sefton, Annabel Serpico, Nurshafiza Shahabudin, Laura Shallcross, Ivan Shamanaev, Taniya Shandil, Stafford Wheeler Sheehan, Amal Shehab, Rami Shehadeh, Yejiào Shi, Danmeng Shuai, Ryan James Siddall, Balvinder Sidhu, Vijay Singh, Taranjit Singh, Efstratios Sitsanidis, Catherine Skidmore, Jonathan Slaughter, Chantal Sleiman, Sian Sloan-Dennison, Adam Smalley, Simon Smith, Sasha Stimpson, Artun Sukan, Yang Sun, Holly Swarbrick, Seyed Amirhossein Tabatabaei Dakhili, Wassie Marsha Takele, Mark Tallon, Mina Tawfik, Paul Taylor, Samar Thiab, Tudor Thomas, Nigel Thomas, Stephen Thompson, Christopher Thoroughgood, Wulan Tri Wahyuni, Fiona Tscherny, Chukwuemeka Theophilus Ugah, Habib Ullah, Murali Venkata Unnamatla, Apoorva Upadhyay, Laura Urbano, Rama Urusula, Kelly Marie Vaughan, Nelson Viegas, Surawit Visitsatthawong, Richard Von Goetze, Agatha Wagutu, Vicky Walker, Yuchen Wang, David Ward, Daniel Ward, Jas Ward, William Watkins, Julie Watts, Julie Wertz, Jenifer White, Edmund Wilkes, Nancy Wilkinson, Sian Elizabeth Woodfine, Christopher Wright, Na Wu, Ruisheng Xiong, Arturas Yakovicius, Wanwan Yu, Ekaterina Zagorskina, Rachele Zammit Mamo, Wenlei Zhai, Richao Zhang, Zainab Nafea Jaafar Zubaidi.

### Chartered Chemist

Faruk Ahmed, Najib Aragrag, Toby Athersuch, Rakeshwar Bandichhor, Martin Paul Bartlett, Natalie Anne Belsey, Gary Bird, Ceri Louise Bird, Richard Blackmore, Colin Martin Brown, Trevor Carey, Matthew Cargill, Rajesh Chauda, Patricia Ann Cox, Alex Criddle, Timothy Dee, Susana Del Rio Gancedo, Richard Delley, Craig Donald, Samia El-Ali, Delwyn Roger Evans, Amy Ruth Godfrey, Fan Gong, Stephen Haddon, Alec Hern, Michael Hickey, Adrian Hill, Nicholas Hodge, Melanie-Jayne Rosemarie Howes, Paul Hughes, Helen Hulme, Matthew James Jamieson, Elizabeth Jordan, Andrew Kendrick, Richard Hilson Kwofie, Ian Mabbett, Katie Grace Maskill, Alan McComb, Philip Mosley, Simon Naylor, Gerard O'shea, Natasha Page, Xiaolin Ren, Thomas Scanlan, Richard Thomas William Scott, Jason Seddon, Agata Sobczynska-Malefora, Claire Spencer, Geetha Srinivasan, Celine Thompson, Katie Viezens, Leonard Winning.

## Chartered Scientist

Faruk Ahmed, Najib Aragrag, Toby Athersuch, Sorin-Ionut Balaban, Gaetano Francesco Bellia, Gary Bird, Ceri Louise Bird, Richard Blackmore, Colin Martin Brown, Rajesh Chauda, Peter Karl Daniel Dawson, Richard Delley, Craig Donald, Ruth Foster, Fan Gong, Paul Hughes, Helen Hulme, Andrew Kavanagh, Monika Krajewska-Farrell, Phillip Martin Mallinson, Simon Naylor, Gerard O'Shea, Natasha Page, Xiaolin Ren, Jason Seddon, Agata Sobczynska-Malefora, Alex Ttofi, Bin Xu.

## Registered Science Technician

Hannah Duckworth, Kathryn Howarth, Anthony Bretherton, Ashley Ryan Clark, Alex Dixie Bates, Alexis Adrienne Atkinson, Joshua Benjamin Volante, Liam Daniel Perks, Natasha Richardson, Zakee Hayat, Christopher William Richardson, Phoebe Simone Worden, Leon Whitehouse, Kate Elizabeth Alderson, Adam Webster, Emma Eustice, Lauren Barry, Kayleigh Anne Bunt, Jamie Freeman, Amy Rose Hambly-Symons, Samuel John Powell, Stephanie White, Trevor Carey, Emily Butterwick, Rebecca Lindsay, Daniel Francis Quinn, Rhobbie Sean Wilkie, Malcolm Clive Pizey, Greta Martinkute, Isaac Ighile, Omodolapo Oluwatumise Okedeyi, Sarah Clark, Jack Davies, Eleanor Hall, Joel Heath, Joseph Philip Hynes, Jehan Rajah, Ben Thomas Allen, Rebecca Aruwa, Odette-Jayne Backhouse, Attila Blackovics, Kye Criddle, James Salvador-Dakers, Amanda Gavin, David Andrew Grech, Farita Gurung, Amy Hall, Jennifer Hardie, Lisa Harris, Ewan Hitchcoe, Laura Higgs-White, Victor Hossari, Peter Philip Jackson, Parasto Karimi Malayer, Benedict Malcolm Ledingham, Claire Louise Meaden, Jeannetta-Sonja Priebe, Gideon Polkinghorne, Alexander Luke Perry, Harriet Rodger, Zuzanna Agnieszka Sadura, Chloe Anna Thomas, Dene Drury, Samantha Bolger, Daniel Jorge Delgado Rosas, Jack Kelly, Alexander Butler, Lyndsey Ann Coleman, David Brian Tompkins, Krill Pogodaev, Liam Adamson, Patrick Minett, Saja Almuayal, Helen Elizabeth Anderson, Aurelija Banyte, Ramdane Bouchatal, Carl Brown,

Justine Joanne Cadwallader, Elizabeth Claire Campbell, Paolo Jorge Couraca Rodrigues, Jessica Daly, Lisa Dixon, Stacey Dobbs, Emem Aniendi Effong, Olivia Fitzgerald, Michelle Harvey, James Herbert, Liam Francis Hill, Siobhan Hughes, Katie Jones, Kelly Lindsay, Esther Mazariego, Linzi Murphy, Thomas Murray, Natasha Amy Poole, Balazs Santa, Tom Vick, Kimberley Whittaker, Awais Osman Awais, Jack Miles, Yulanda Donna Melisa Forte, Emma Marie Anderson, Simon Tate, Abigail Josephine Sawkins, Shuan Longmire.

## Registered Scientist

Laurence Charles Reed, Scott Anthony Wilson, James Wixey, Stephanie Beaver, Taniya Shandil, Jackie Brookling, Rebecca Louise Charlton, Camilla Moller, Vicky Walker, Emma Louise Matthews, Rory Moir, Steven Kay, Alexander Blanzas, Philip Robert Anthony Chivers, Lucy Cartwright, Harry Rackham, Amy Scolah, Rebecca Doran, Catherine Jane Fuller, Matthew Davey, Megan Alicia Todd, Robin Ian Gibson, Hazel Bethany Nicola Hart, Jonathon James Higgins, Craig Wilkinson, Damien Mckenzie, Tessa Mottram, Natasha Connor, Ryan James Siddall.

# Deaths

**Professor Arun Kumar Barua**  
**CChem FRSC** Retired Professor of chemistry, Bose Institute. Date of death not supplied

**Professor John Herbert Beynon**  
**CSci CChem FRSC** Retired University of Wales Swansea. Date of death not supplied

**Mr Jack Gordon Bramley**  
**CChem MRSC** Retired market development, Shell International Chemicals Co. Ltd. Date of death not supplied

**Dr James Russell Doggart**  
**CChem FRSC** Retired top grade biochemist, Ulster Hospital. Died 16 August 2015, aged 90

**Dr Peter Henry George Draper**  
**CChem MRSC** Retired. Died 14 February 2015, aged 81

**Professor Adam Fleck CChem FRSC** Retired Chemical pathologist, Charing Cross & Westminster Hospital. Date of death not supplied

**Mr Charles Victor Green CChem FRSC** Retired. Died 8 July 2015, aged 92

**Mr Robert Ian Hall MRSC** Retired. Died 10 September 2015, aged 88

**Mr James Henry Hartley MRSC** Retired lecturer in building science. Guildford College of Technology. Died 30 July 2015, aged 87

**Mr Charles Robert Hillier**  
**CChem MRSC** Project manager, Argenta Manufacturing Ltd. Died 20 January 2015, aged 53

**Mr Arthur Edward Kerridge**  
**CChem MRSC** Retired project manager, M W Kellogg Co. Died 26 July 2015, aged 88

**Dr Joseph Alan Leeson CChem FRSC** Retired senior lecturer in biochemistry and food science, South Glamorgan Institute of Higher Education. Date of death not supplied

**Mr Hugh Michael Macturk**  
**CChem MRSC** Retired. Date of death not supplied

**Mr Sidney Richard Oldland**  
**CChem MRSC** Retired self-employed polymer consultant, Cambridge Polymer Consultants. Died 22 July 2015, aged 83

**Mr Gordon Rothwell MRSC** Retired. Died 30 May 2015, aged 71

**Mrs Jennifer Anne Stephens**  
**MRSC** Retired school science technician, Woodford County High School. Died August 2015, aged 68

**Mr William Alexander Logan Watt**  
**CChem MRSC** Retired. Died 21 April 2015, aged 89

**Dr John Francis Kelly Wilshire**  
**MRSC** Retired CSIRO Australia. Died 4 April 2015, aged 87

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](mailto:membership@rsc.org). See [www.rsc.li/obituaries](http://www.rsc.li/obituaries) for obituaries.



# Stay part of the world's leading chemistry community

Renew your membership to the Royal Society of Chemistry

## Pay online

Go to <http://rsc.li/member-renewal> and enter your membership number and password

## Set up a direct debit

Set up a monthly or annual direct debit online at <http://rsc.li/member-direct-debit> or by returning the direct debit request form that is attached to your payment slip

## Renew by post

If you have received a subscription renewal form, simply fill in your details and return it to our Membership department

## Any questions?

Call our Membership team on +44 (0)1223 432141 or email us at [membership@rsc.org](mailto:membership@rsc.org)

Your membership fee is due by 1 January 2016

[www.rsc.org/renew](http://www.rsc.org/renew)

Registered charity number: 207890



THE QUEEN'S AWARDS  
FOR ENTERPRISE:  
INTERNATIONAL TRADE  
2013