

RSC NEWS

MAY 2015 www.rsc.org

Antimicrobial resistance

Chemistry solutions to
global challenges

Our elections
p8

To inspire and
be inspired
p15



ROYAL SOCIETY
OF CHEMISTRY



◀ **Strategic Partnerships** Our president Dominic Tildesley led a delegation of staff to BASF in Ludwigshafen for talks on areas for collaboration.

▼ **British Science Week** Our education co-ordinators have been in action in British Science Week – see p5 for more news of our activities around the UK.



◀ **Pan Africa Chemistry Network** (left and below) We've signed a memorandum of understanding with GSK, supporting the work of the Pan Africa Chemistry Network. See p23 for more details.

▼ The Pan Africa Chemistry Network running GC-MS training in Ghana, including delegates from Ghana and Nigeria and trainers from the UK and Kenya.



Contents

MAY 2015

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REGULARS

- 4 Snapshot**
News and updates from around the organisation
- 6 One to one**
Introducing our Early Career Network
- 7 Profile**
I'm a Scientist, Get Me Out of Here!
- 15 Opinion**
Inspiration from the Joliot-Curie conference



FEATURES

- 8 Royal Society of Chemistry elections 2015**
Elections are scheduled to open online on 7 May until noon on Monday 8 June
- 10 President elect candidates**
- 12 Global challenges – AMR**
Chemistry solutions to tackle antimicrobial resistance



DIARY

- 16 Conferences**
Upcoming meetings and deadlines
- 17 Events**
Your guide to events by region and section
- 21 Notices**
A round-up of news, competitions, prizes, international agreements and more...



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Snapshot

A look at the latest news from around the world

IN BRIEF

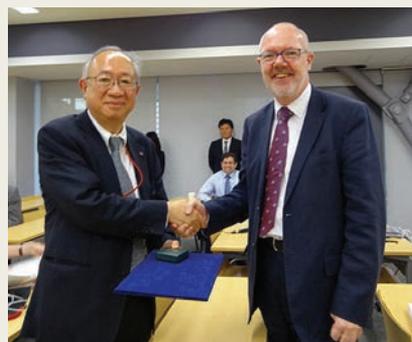
Building on a successful relationship in Japan

Our chief executive Robert Parker recently travelled to Japan to sign an extension to our partnership with the Chemical Society of Japan, continuing our International Cooperation Agreement for a further five years.

The signing was part of the sixth in our series of joint symposia, including joint events in chemical biology and supramolecular chemistry, the annual awarding of the PCCP prize and participation in the high profile Chemical Sciences and Society Symposia series.

Opening the symposium, Robert Parker said: "We hope that the symposium will provide a springboard for future activities and that it will foster new research collaborations. We look forward to continuing our close partnership with the Chemical Society of Japan, with more joint CSJ-RSC activities in the future."

Dr Parker explained that we are pleased to have the opportunity to work more closely with the Japanese chemical science community through Dr Hiromitsu Urakami, our Representative for Japan, who is based full-time in our office in Tokyo, located in the Chemical Society of Japan building.



Executive director of the Chemical Society of Japan, Nobuyuki Kawashima signing the MoU with our chief executive, Robert Parker.

200 up for EnterprisePlus

A water treatment company that began in the founder's garage has become the 200th member of EnterprisePlus. Arvia Technologies, based in Cheshire, is a spin-out from Manchester University and has been working to take its patented technology to market.

"Unlike most water treatment which are filter systems, and act like sponges that eventually fill up and must be replaced, our system removes the contaminant and then continually regenerates the system," says Dr Mikael Khan, Director of Technology at Arvia.

"We remove the organics in the water and then electrochemically destroy them, and the substance we use is then regenerated."

Arvia is working to deploy its technology in a number of sectors, including nuclear, and has successfully used a small unit at the Fukushima plant in Japan – as the only small or medium company to be involved in decontamination there.

Mikael says Arvia is looking forward to the benefits of EnterprisePlus as the company continues its commercial development. "A number of aspects will be effective for us – certainly the networking possibilities – and I find it very interesting that we can get access to internships for staff development and training, and assistance with recruitment.

"We are very interested in attending events to meet others and improve the exposure of Arvia from a marketing perspective."

Employees at the company also have strong ties to the Royal Society of Chemistry. "We have staff who have been members for quite some time and always speak highly of the society. In fact, our very first employee, Andrew Campen, told me he found career preparation and guidance advice from the Royal Society of Chemistry very useful," says Mikael.

Companies that sign up to EnterprisePlus benefit from cost-effective access to chemical science information, ways to raise their profiles and support with recruitment and funding opportunities. Through our EnterprisePlus Industrial Placement Grants – which we operate in partnership with the Cogent Placements Service – we fund one-year placements for undergraduate students in small companies worth up to £20,000. See www.rsc.org/sme for more information.



New horizons on the nanoscale

Nanoscale Horizons

We have announced the launch of our latest new journal – *Nanoscale Horizons*.

Sister journal to *Nanoscale* and *Materials Horizons*, *Nanoscale Horizons* will publish the same breadth of research across the nanoscience and nanotechnology fields as *Nanoscale* but will only publish work of exceptional significance.

We'll be sending out a call for papers in the next month or two – keep your eyes open for the latest news.

British Science Week round-up

Celebrating STEM around the UK

British Science Week is actually a ten-day long celebration of science, technology, engineering and maths – many members of our community, not least our education coordinators, have been creating fascinating, entertaining and engaging events and activities across the UK for people of all ages.

British Science Week provides a platform to stimulate and support teachers, STEM professionals, science communicators and the general public to produce and participate in STEM events and activities.

Here are some of our highlights...



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▲ **Practical primary teaching** Dr Joanna Buckley, RSC Education Coordinator for North East England delivered some practical workshops at a large primary science conference in Harrogate, for North Yorkshire primary teachers. She focused on how they can introduce chemistry into the classroom using pH and fragrance chemistry, culminating in making the good old bath bomb!

◀ **Competition winners get hands-on** Jo also worked with children from Worsbrough Common Primary School in Barnsley, which ran a competition to design a scientific invention that could help teachers in their classrooms. Two children from each class won the trip to the University of Sheffield's Chemistry Department to do some practical chemistry in the Schools Lab. Sheffield Uni enjoyed it so much, they made a video (find it on our Youtube channel).

▼ **Water in Scotland** On 19 and 20 March we held Making it Clear, a two day water science-themed event at the Glasgow Science Centre, which saw the perfect opportunity for Education Coordinator Katy Mould to introduce P4-S2 pupils to hydrogels and get people involved in the Water Global Experiment. An amazing 1200 pupils enjoyed the Scottish Water-funded programme of water activities and exhibits and the chance to meet experts and scientists who work with water.



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▲ **Chemical Reaction Challenge** Year eight students from Thomas Deacon Academy in Peterborough took part in a two-stage event run by the Royal Society of Chemistry – involving an online quiz and a practical challenge – as part of the launch of the Royal Society of Chemistry Chemical Reaction Challenge. The challenge gave three lucky secondary students chance to win an iPad for themselves and a free site licence for *IntoScience*, the interactive digital science resource, for their school. Participating schools received a customised report analysing students' strengths and weaknesses across different areas of the chemistry curriculum. Bob Duddridge, TDA STEM Team Leader added: "The day was a big success thanks to the hard work of staff from the Royal Society of Chemistry, the support of academy staff, and the enthusiasm that our students displayed for chemistry".

Chemistry is Elementary Vicki Aldmington, Education Co-ordinator for South East England organised a Chemnet event for 90 students aged 14-16 to visit Burlington House, in London. In Chemistry is Elementary Dr Bryson Gore explored the history, both fact and fiction, of the periodic table and showed how the concept of periodic properties has withstood the passage of time.

One to one

Take advantage of a wide range of member services

Engaging with our members in the early stages of their career

Engaging with members in the early stages of their career is vital to the future of our member networks. One of the great ways that we achieve this is through our Early Career Network, previously known as the Younger Member Network.

Anyone who joins the Royal Society of Chemistry as a member and considers themselves in the early stages of their career (regardless of whether they are in academia, industry, teaching, at university, full-time work, returning to a career after a break, or have changed their career) is considered part of this network, and is welcome to attend any of the events and activities.

The network is member-led and the activities and events that the network offers are organised by our active and enthusiastic Early Career Network representatives.

To date, our representatives have done a brilliant job in encouraging our members in the early stages of their career to get involved in activities that progress both their own and other members' personal and professional development. However, the network has not developed consistently in all areas and, as a result, not all of our members in the early stages of their career benefit from it.

We sought your feedback and agreed that we need better ways to support and engage early career members to integrate appropriately with our other networks and, over the last year, we have reviewed the network.

As part of the extensive consultation process, members helped us to identify the main purposes for the Early Career Network:

- networking opportunities with those at a similar career stage
- opportunities to develop communications skills, both informally and in a formal conference setting
- activities that provide a safe environment to develop these skills with peer-to-peer support
- provide a better bridge between university ChemSoc activities to the stage where members feel they are able to fully engage with Interest Groups, Divisions, and with Local Section committees, as many of these networks currently struggle to engage younger members

What's more, we hope that the peer-to-peer support provided through this network will support the diversity of our members. That includes those following a career break, members who have or are seeking to change career direction, as well as more broadly supporting diversity in our networks and in our members' careers by providing valuable and relevant opportunities to everyone.

Rejuvenating the network

We are in the process of making some changes to the network so that it becomes an inclusive network for anyone who considers themselves in the

early stages of their career, and who feels they would benefit from networking within their peer group whilst forming connections with others who are further ahead in their career, in a friendly and accessible environment. This may include members in industry, teachers, students, academics, as well as members who are returning to work or study following a career break, or those changing career path.

Early Career Network Committee

We will be introducing an Early Career Network Committee to oversee activities that support early career members, including:

- agreeing funding levels for Early Career Network events
- discussing matters and identify areas of development relating to member engagement with the network, and members in the early stage of their career with other networks
- suggesting and identifying potential joint activities across the regions
- acting as a point of contact for Royal Society of Chemistry staff to consult on products and services they are looking to develop for members in the early stages of their career.

This committee will be made up of the nine Early Career Network Representatives who sit on the Regional Steering Groups, and an additional three members from our membership. We will be advertising for nominations for this committee in *RSC News* in the upcoming months.

We are also looking to expand our network of Early Career Network Representatives, so if you are interested in supporting the organisation of activities and events for members in the early stages of their career, we would love to hear from you.

For more information about the committee, becoming a representative or to find out who the representatives are in your region, please have a look on our website, or contact networks@rsc.org



Profile

A closer look at our members and their interests



Joanna Sadler is working towards a PhD as part of a GSK and University of Strathclyde collaboration.

Joanna Sadler

Meet one of the winners of this year's I'm a Scientist, Get me Out of Here

Q What inspired you to study chemistry?

A I have had a keen interest in science from a young age and for a long time aspired to study medicine to become a doctor. It wasn't until I did some work experience in a molecular haematology research lab that I realised I was much more motivated by the fundamental science behind the research than its clinical application.

Increasingly, I wanted to be able to visualise and understand the world at a molecular level. In choosing to study chemistry at university, I was also inspired by the vast array of industries in which chemistry played a part and the impact it can have on our everyday lives.

Q What does your current work involve?

A I am in the second year of my PhD as part of the GSK/University of Strathclyde collaboration. Apart from a three-month placement at the University of Strathclyde, we are based at GSK for the full three and a half years. This provides us with a great insight into the pharmaceutical industry and the opportunity to work in an area of direct industrial interest alongside experienced chemists.

Working within the GSK biocatalysis group, my research is focused on enzymes to perform Friedel-Crafts type alkylations. Once developed, we hope that one day they may offer greener, more sustainable alternatives to traditional carbon-carbon bond forming reaction conditions. This interdisciplinary project involves synthetic organic chemistry, molecular biology, crystallography and molecular modelling.

Q What path have you taken to get there?

A As part of my undergraduate degree in chemistry at Bristol University, I worked for a year at AstraZeneca as a process chemist. It really brought chemistry alive for me – it became a real-world subject, where the

success or failure of a process had a major impact both on the company and also the environment.

In particular, I became acutely aware of the need to further develop chemistry to make processes more efficient and sustainable. I have always considered science to be a highly creative discipline and was motivated by the idea that applying my own creativity to new research could contribute to building a more sustainable chemical industry, prompting me to study for a PhD.

As someone with a diverse range of interests, working in biocatalysis gives me the opportunity to bring together a range of disciplines whilst working towards a 'green chemistry' goal.

Q What did you gain from I'm a Scientist, Get Me Out of Here...

A It was a fantastic experience – I hope that the students learnt something from me as I certainly learnt a lot from them. Through a series of questions and live chats with secondary school students from across the country, we were able to give students a better understanding of what scientists do on a day to day basis, why we do it and to show that we are fairly normal people after all! I was in the 'Green Chemistry Zone' of the competition, so questions were mainly focused around green chemistry and sustainability.

Throughout the event, one of the main messages I tried to relay was that science is a living, dynamic subject with real-world impact. I wanted to make it accessible and show that anyone can do it if they want to. In return, I got a really interesting insight into students' perceptions of science, which will definitely help me when planning further public engagement projects.

Q What happens next?

A As one of the winners of the I'm a Scientist competition, I have been given funding to invest in further science engagement projects. I'm looking into using this to provide schools with Green Chemistry resource packs, aimed at bringing the subject alive in a hands-on manner.

I'm also organising a competition for secondary school students to encourage them to get thinking more creatively about science. In my own research, we are looking to start evolving the enzymes towards wider substrate scope to provide a synthetically useful library of biocatalysts for alkylation reactions. After my PhD, I hope to continue with research in biocatalysis, possibly by carrying out post-doctoral research in academia.

"I want to encourage students to get thinking more creatively about science."

SHARING YOUR PASSION FOR THE CHEMICAL SCIENCES

Do you want to develop your science communication skills? Or inspire the next generation with your passion for the chemical sciences? Or even become a Royal Society of Chemistry STEM ambassador and support local schools? We support outreach activities throughout the year, including online events such as I'm a Scientist, Get Me Out of Here.

To find out more visit the Outreach pages on RSC.org or email the Outreach Team at outreach@rsc.org.

Royal Society of Chemistry elections 2015

Details of contested elections taking place in 2015 are given through our Vacancies and Elections page of the Royal Society of Chemistry website rsc.li/vacancies-elections

Unusually in 2015, we have an election for the position of the Royal Society of Chemistry's president elect. Here's a short reminder of what the successful candidate will be responsible for:

- The president chairs Council (the Board of Trustees), the overall body responsible for the government and control of the Royal Society of Chemistry, ensuring that trustees fulfil their duties and responsibilities for the governance of the Royal Society of Chemistry.
- The president serves a four-year term comprising one year as president elect, two years as president and one year as immediate past president.
- The president elect works with fellow Honorary Officers, (this includes the honorary treasurer and the current president), Council members and the Leadership Team to develop the Royal Society of Chemistry Strategy.
- The role of president is to lead, manage and support Council members in formulating and achieving objectives derived from the Royal Society of Chemistry strategy.
- The president acts as a leading ambassador for the Royal Society of Chemistry through presentations to, and engagement with, industry and academia at national and international level, government and the public.

Peter Holland, our governance manager, acts as returning officer for the elections, while the administration of the elections will be carried out by Mi-Voice.

"Every member has a vote, and it can be used either online or by post," he explains. "If you provided an email address to the Royal Society of Chemistry, then you will be contacted directly by Mi-Voice who will send you an email inviting you to vote and guiding you to a secured web site to cast your vote online. This site, where voting takes place, will be open 24 hours a day during the voting period."

For those not voting online, the option still exists to vote by post, and voting papers will be sent out accordingly. If you would like further information or assistance on the elections, please get in touch at election@rsc.org

The Royal Society of Chemistry 2015 Elections are scheduled to open on 7 May, until noon on Monday 8 June.

The names of the newly elected members will be announced at the Royal Society of Chemistry's Annual General Meeting on 8 July 2015 and reported later on the website at <http://rsc.li/agm15>



► Seven of our past presidents, at Burlington House

KEY DATES

7 May – polling opens

8 June – polling closes 12 noon

8 July – results announced



THE HISTORIC PRESIDENT'S BADGE OF OFFICE

Our presidential badge of office was constructed in 1949 and was originally designed for the President of the Royal Institute of Chemistry. However, when the societies merged in 1980, this became the official Badge for the president of the Royal Society of Chemistry and is worn by the president on special occasions to this day.

The following is a truncated extract from an article written in the 'Journal and Proceedings of the Royal Institute of Chemistry' from 1949 describing the medal and the significance of its design and construction.

"The badge itself consists of a wheel of gold with twelve spokes, each of which is composed of a different non-tarnishable white metal. The centre of the wheel is occupied by a hexagonal medallion bearing the figure of Priestley in enamel. The metals used for the spokes of the wheel are as follows, beginning from the upper vertical spoke and proceeding in a clockwise direction: palladium, cobalt, zirconium, iridium, niobium, tungsten, platinum, molybdenum, tantalum, rhodium, titanium and nickel.

Thus the four platinum metals occupy the north, south, east and west positions, and the intermediate positions are occupied symmetrically by (in order) the transitional metals, nickel and cobalt; group IV metals, titanium and zirconium; group V metals, tantalum and niobium; and group VI metals, molybdenum and tungsten. Tantalum and tungsten have been put on the opposite sides of the vertical axis so as to balance the weight, as these spokes are nearly twice as heavy as the corresponding molybdenum and niobium spokes.

This arrangement is not only symmetrical, but takes account of the slightly differing colours of the metals, showing a gradual change from the pure white of palladium to the rather steely appearance of tantalum and niobium and back to the greyish white of platinum. For purposes of identification, the chemical symbols of these metals are engraved on the back of the gold ring at the point of contact with it.

The badge is suspended from a collarette which has been woven specially in the form of a wide ribbon... The whole ribbon has been dyed with the earliest of the synthetic dyes, Mauveine, first prepared by W. H. Perkin in 1856.



WORDS
EDWIN SILVESTER

Election of president elect of the Royal Society of Chemistry

The president serves a four-year term, comprising one year as president elect, two years as president and one year as immediate past president, working with fellow honorary officers, Council members and the Leadership Team to develop our strategy



Richard Catlow
BA MA DPhil CChem FRSC FRS

Why do you want to be president?

My professional career has been in Chemistry – both in teaching the discipline and in advancing chemical science through my research. I believe that chemistry is more relevant than ever – a vital and central area of contemporary science and technology with exciting intellectual challenges and huge relevance to and impact on industry, the economy and society. The RSC plays a crucial role in fostering and developing chemical sciences and in providing advocacy for our discipline. The next few years will be of great importance for science in general and chemistry in particular and I would like to have the opportunity of leading the Society during this period.

What skills do you bring to the role?

I will bring a reputation both within the UK and internationally as a chemist and a scientist who has worked at the forefront of the discipline. I will bring experience of communicating chemistry both to scientific and general audiences, benefitting from my extensive experience both in university teaching and in presenting science events for young people at the Royal Institution. I will bring management and leadership skills from my work in senior management within my university, together with wide-ranging experience in working with funding agencies and scientific bodies. Finally, I believe I will be effective in advocacy and policy development.

What have you done in the past with the Royal Society of Chemistry and the wider chemistry community?

I have throughout my career been strongly involved with the Society. I served on Faraday Council and on the Editorial Board of Dalton Transactions. I co-founded a successful RSC Discussion group, have published very extensively in RSC journals and have helped organise and contribute to RSC conferences. I have served on Research Council and international funding agency panels and have chaired the Chemistry Sectional Committee of the Royal Society. Recently I chaired the Chemistry panel of the Research Excellence Framework (REF2014) which assessed the research quality of UK university chemistry departments – an exercise which, as I have argued in an article in *Chemistry World*, demonstrated the strength and impact of UK Chemistry.

What do you hope to achieve as president?

Quite simply, I would hope to strengthen and advance our discipline; to ensure that it continues to attract young people into chemistry at schools and universities and to assist the development of their careers in education, in research in both universities and industry, and in other professions. I would aim to develop further both the strength of chemical education and chemistry research and would build on the excellent role the RSC has played in recent years in providing advocacy for chemistry. I hope and believe that I could provide strong leadership for RSC and the Chemistry community.

What do you do on your days off?

I have had rather little in recent years! But I like to spend time with my family and get much needed exercise by weekend walks, especially in the Forest of Dean. I have a pretty catholic taste in reading which I always enjoy. One of the privileges of being a scientist is the opportunity to travel and experience different cultures which I also greatly enjoy.



Sir John Holman
BA MA CChem FRSC

Why do you want to be president?

I've been a Fellow of the RSC since 1985 but I've never known a time when the RSC has been in a better position to take the lead in advancing the chemical sciences. There should be no limit to what we can achieve nationally and internationally. I believe I can help RSC set a clear strategy to lead the way in showing politicians and the public how chemistry underpins our health and wealth: chemistry is their friend, not something to be feared.

What skills do you bring to the role?

I've held senior positions in schools, university and government and I know about leadership and strategic planning. RSC has excellent staff and they need a President who can support and guide them. I have a lot of experience dealing with government Ministers and officials and I believe I can persuade them as well as opening their doors. I am a good listener, which is important in a society with over 50,000 members: I want to know what members want from the RSC. People tell me I am an inspiring speaker and I get much pleasure from sharing my enthusiasm for chemistry with audiences young and old.

What have you done in the past with the Royal Society of Chemistry and the wider chemistry community?

I have lectured for RSC on many occasions, most recently in March 2015 to the Belgium branch, and I have served on numerous RSC committees. I have fought the corner for chemistry within the curriculum ever since I helped write the first *National Curriculum for Science*. I was one of the founders of the influential Salters chemistry curricula, importantly involving industry scientists to provide applied success stories showing the value of chemical sciences. My chemistry texts have been used by hundreds of thousands of students in this country, and widely adapted overseas.

What do you hope to achieve as president?

I want RSC to be really ambitious for the chemical sciences, in terms of research, innovation, public engagement and education. We're doing a lot, but we can do more. I would like to lead a campaign to convince the public of the importance of chemistry in their lives, and to convince policymakers that it is in the interest of the UK to invest in chemical research.

What do you do on your days off?

I like to be outside and I enjoy walking and cycling. I'm an avid gardener and I like growing, cooking and eating food. I enjoy literature and I founded our local book group, and I am setting up a local history group in our village. Above all, I enjoy the company of my large family.

Tackling antimicrobial resistance

In the second of our Global Challenges features, we find out why we are developing an antimicrobial resistance programme and how we are supporting our community to address this global threat

This month, the World Health Organization will present its draft global action plan on antimicrobial resistance (AMR) at the 68th World Health Assembly in Geneva. The goal is to ensure that we can continue to safely and effectively treat and prevent infectious diseases. There is increasing concern about the threat posed by antibiotic resistance, and more broadly AMR, to health, food production, and economic prosperity.

“Drug-resistant infections already kill hundreds of thousands a year globally, and by 2050 that figure could be more than 10 million. The economic cost will also be significant, with the world economy being hit by up to \$100 trillion by 2050 if we do not take action.”

Jim O'Neill, Chairman of the Review on Antimicrobial Resistance

In Europe alone about 25,000 people die each year from drug-resistant microbial infections, similar to the number who die in road traffic accidents, with an estimated economic impact of at least €1.5 billion. Many surgery and cancer therapies, that could make people more prone to bacterial infections, could be rendered obsolete in the absence of effective antibiotics. AMR could also significantly threaten global food production: without effective antimicrobials (including fungicides), crop yields would decrease significantly while the global population will still be increasing.

“it is not difficult to make microbes resistant to penicillin...”

Sir Alexander Fleming, Nobel Lecture, December 1945

The emergence of AMR is not unexpected but resistance is greatly accelerated by the overuse and misuse of antimicrobials in health and agriculture. Addressing AMR is complicated by social and economic factors that need to be solved in parallel to the scientific challenges.

Policy and funding matters

The UK's current response includes a *Five Year Antimicrobial Resistance Strategy*, published in 2013, and a Government-announced independent review,

to examine the economic issues surrounding AMR. In addition, the UK public voted for the £10 million Longitude Prize to create a 'cost-effective, accurate, rapid, and easy-to-use test for bacterial infections' so health professionals can administer the right antibiotic at the right time. Also in 2014, the Antimicrobial Resistance Funders' Forum was established, allowing key research funding agencies including the Research Councils, Department of Health (DoH), and charities to coordinate, maximise funding impact and raise the profile of the UK's AMR research base.

More public and private investment is required for fundamental, blue-sky, chemistry research to enable advances in AMR understanding, and to translate new discoveries into treatments, diagnostics and mitigation strategies. Clearly, mechanisms to support collaboration between academia, industry, clinicians and funders will be critical. Professor Chris Schofield (University of Oxford) outlined how 'work in the resistance field needs to be truly interdisciplinary' in his recent *RSC News* opinion piece. We need to ensure that academic research is fully supported and translational mechanisms provided enabling scientists to address this challenge fully. The creation of AMR centres of excellence is one possible way to link knowledge across the chemical sciences, microbiology, biochemistry, pharmacology and the clinical sciences.

The role of chemistry

Our roadmap, *Chemistry for Tomorrow's World*, highlighted many of the contributions that the chemical sciences make in tackling global challenges, including infectious disease.

Chemistry is central to understanding AMR and its causes, as well as developing strategies to overcome it. To highlight chemistry's impact, we have created an AMR web collection which will be freely available for one month starting on 18 May to coincide with the 68th World Health Assembly. We will focus throughout the year on advocacy and community support to advance research in tackling AMR.

WORDS
ANNE HORAN

Our series of conferences showcase cutting-edge research and support the development of the next generation of researchers. Amongst the advances discussed at our recent Directing Biosynthesis conference were innovative methodologies for the discovery of novel antimicrobials, and synthetic biology approaches to the production of analogues of structurally complex and synthetically challenging antibiotics.

"The overwhelming majority of antibiotics in clinical use are natural products or semisynthetic derivatives. Although approaches based on synthetic compounds have proved successful in other areas of drug discovery they have largely failed to deliver new antibiotics. There is thus an urgent need to develop novel approaches for antimicrobial natural product discovery, as well as new ways to engineer the biosynthetic pathways for clinically-used compounds to produce new derivatives."

Greg Challis, University of Warwick, Member of the Directing Biosynthesis IV Scientific Committee

The Chemistry in Health symposium at the end of May will feature five of our prize and award winners who will speak about their research in areas such as understanding infectious disease and the generation of new antibiotics. The programme will include a poster session and lecture on the exploration of new or improved platforms for collaboration. Professor John Watson, Deputy Chief Medical Officer (DoH) who will present the winners with their medals commented: "I am delighted to have the opportunity to contribute to this event. Research is identified in the UK's national strategy as an integral part of the action necessary to tackle the threat of AMR. A wide range of research is needed, from work that will contribute to the development of new drugs, alternative treatments and diagnostics to more effective ways to change the ways we use antimicrobials. Funders within the UK are working together, and collaborating with international partners, to enable this essential work to move forward rapidly."

Multiple sectors and disciplines will need to work together on any viable solutions for AMR. Therefore we have joined six other learned societies, including the Society of Biology and the British Society of Antimicrobial Chemotherapy, in a partnership to support knowledge sharing and to develop collaborations.

Many of our members are researching ways to tackle AMR and in November, working with members of the Chemistry Biology Interface Division, we are partnering with the British Society of Antimicrobial Chemotherapy to organise a workshop aimed at understanding and addressing antimicrobial resistance mechanisms.

We are also supporting a series of regional workshops to bring together researchers to better understand the evolution and circulation of resistance in humans, animals, food, water, and in the environment. Before the end of the year, we will hold a panel discussion of leading experts from Industry, Academia and Government with the Cambridge Centre for Science and Policy, to share ideas of the most promising ways to tackle AMR and identify how to implement these solutions.

If you are planning events and activities related to AMR or wish to make a suggestion, please get in touch with us at science@rsc.org and find out more at www.rsc.org/health

AMR PROGRAMME 2015

- Chemistry in Health 2015: Towards new therapeutics to fight disease, 26 May, London, UK
- Antimicrobial resistance web collection, all articles are free to view for one month from 18 May
- Antimicrobial resistance: environments, evolution and transmission: 25 June, London, 03 July, Dundee and 07 July, Nottingham
- International Symposium on Antibacterial Agents: Chemistry and Mechanisms of Action, 25-27 August, Lanzhou and Tianjin, China, organised in collaboration with the Chinese Pharmaceutical Association and Tianjin University
- Antibiotic resistance mechanisms workshop, in partnership with the British Society of Antimicrobial Chemotherapy, 26-27 November, Birmingham, UK

Opinion

Letters and comments on RSC activities and issues

FROM THE EDITOR



Our series on global challenges and their possible chemistry solutions started in January this year, with an overview of our plans to help tackle the biggest

environmental, economic and health issues facing human society.

Chemistry is central to understanding antimicrobial resistance and its causes, – as well as developing strategies to overcome it – we look in detail at this crucial issue and the fight to beat it (p12).

Unusually in 2015, we have an election for the position of the Royal Society of Chemistry's president elect. We look at the election process and hear from the two candidates (p8-11).

Our Younger Member Network is no more – but don't worry, it's becoming the Early Career Network to better help members in the crucial initial stages of their careers (p6).

And as usual there's lots of news from your events and activities, from British Science Week to international competitions, prizes and awards.

Edwin Silvester
rscnews@rsc.org

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

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

@RSC_Comms

@RSC_Newsroom

Benevolent fund

Re the letter from Professor Jones (Opinion, RSC News April 2015) and my agreement with the desirability of helping other chemists in need but I am totally against the idea that the Benevolent Fund should get involved.

From my own experiences I know that the first request will be of such high quality that it would be agreed unanimously that help should be given. The problem with setting this precedent is that subsequent requests will have progressively less merit until contributors to the Fund begin to question why they should continue their donations.

Help chemists in need by all means but please do not involve this Fund.

Wilfred Anderson, CChem MRSC
Thetford, UK

Thank you for all of your comments on the Benevolent Fund in recent editions. The Member Services team have also received a number of messages and continue their work on providing a benevolent fund model fit for our modern community.

We will of course bring you news of those plans in RSC News.

Edwin Silvester
Cambridge, UK

Thank you

I am sending this to offer my thanks for continuing to send me editions of RSC News and Chemistry World. I am close to 87 years in age.

I continue to learn about developments and provide, as Honorary Member of the RSC and some Indian organisations, to science, and engineering.

Dr S Varadarajan CChem FRSC
New Delhi, India

Correction to April issue

Last month, due to a clerical error, we printed the incorrect details for our new Registered Scientists and Registered Science Technicians. Here's how the list should have looked and congratulations once again on receiving your awards.

Registered Science Technician (RSciTech)
Thenuka Kiritharan

Registered Scientist (RSci)

Adam Grossman
Jayne Alexandra Ede
Craig Hopper
Claire Campbell
Kathryn Hope
Adetayo Francis Onikosi
Natasha Page
Susanne Patel
Luke Pettican
Adam Justin Savin

Having the chance to inspire and be inspired

Helping everyone, regardless of who they are, to achieve their chosen career in chemistry is what the Joliot-Curie Conference is all about, says Nazira Karodia

Beyond the political slogan 'I can' lies a deeper belief that we can, despite odds, succeed in our personal lives as well as in careers in chemistry. In an ideal world you should never have to choose between being yourself and being a chemist. The world is not ideal and opportunities such as the Joliot-Curie Conference are practical and social means of supporting the hope that we achieve our hopes both in chemistry careers and in our personal lives

Opportunities seem to come easily for some, but for most of us, even in the absence of obvious obstacles, building a career is hard work. Often life and work throw up challenges with which we fumble and the path forward seems obscured. As workers and as social beings, we need a society of supporting people. Helping everyone, regardless of who they are, to achieve their career in chemistry is what the Joliot-Curie Conference is all about, and I'm looking forward to taking part for the first time this September.

A career in science demands an extraordinary number of skills – completing your research is only one hurdle. You also need the skills to communicate your results to the rest of the community, secure funding, build collaborations, teach, mentor students and maybe one day manage a team, a group or even a lab. Add to this the fact that you may not have been born into a group traditionally associated with science.

Big challenges

The Joliot-Curie Conference is about sharing problems, but in the context of positive support. Nobody can live your career for you, but there are always people who have had similar experiences, who can teach you some tricks of the trade and encourage you to draw on your own reserves of talent and character. Career challenges are not something you grow out of and Joliot-Curie is a healthy environment to address experiences that might be taboo in your lab.

Those of us who've made it through big challenges or are further along that path have a duty to help those coming after us. Because we are communal beings, success routes need to be shared and there is an immense personal reward in bringing others along with you. We also know that chemistry, like science in general, is facing a skills shortage and we can't afford to lose young researchers who have difficulty finding a place – whether that's because of discrimination, bullying, lack of accessibility, or other individual challenges that stop them fulfilling their potential.

It's not surprising that as a conference tackling the very roots of how we work, the Joliot-Curie Conference is unlike other academic settings. It's a conference, but it

is also a training ground for how to attend and interact at other conferences. There are still vital opportunities to present posters, and be included in the abstracts book, but in other ways it's very different. Speakers are not only encouraged to be available in the networking breaks – they are available and breaks are extra-long to allow for interactions to develop. Unlike many important conferences, the registration is free of charge, and the convenors are adamant that finances should not be an obstacle.

Inspiration

This year's conference will be hosted by Murray Edwards College in Cambridge. The Joliot-Curies provide a great example of inclusion in the chemical sciences. As a daughter of Pierre and Marie Curie, Irène Joliot-Curie was obviously born into science and privilege. However, that didn't shield her from some of the discrimination that women in science experienced – and that may be sadly familiar to some women in science today. Irène and her husband Frédéric were jointly awarded the Nobel Prize for Chemistry in 1935 for their work on the synthesis of radioactive elements, but they were also keenly interested in political and social issues and were tireless campaigners for women's education.

Their daughter Professor Hélène Langevin-Joliot also entered a career in the sciences, and gave last year's keynote address at the conference. As keynote speaker this time around, I bring to the conference my experience of growing up under the fascism of apartheid, the insult of segregated schooling and my career in a world still dominated by the challenge of covert male control.

I've already heard some wonderful stories from the first three Joliot-Curie Conferences. I'm looking forward to being a part of this year's event and sharing my experiences. After all, what could be better than having the chance to inspire and be inspired?



Dr Nazira Karodia is one of our 175 Faces of Chemistry and takes up a Professorship in Science Education at the University of Wolverhampton in July.

“Career challenges are not something you grow out of...”



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Diary

Your guide to all important events

IN THE DIARY

Conferences	16
Events	17
Eastern	17
International	17
Ireland	18
Midlands	18
North East	18
North West	18
Scotland	18
South East	18
South West	19
Wales	20
Notices	21
Deaths	23

NOTICES



Teacher training makes strides in science education in India (p22).

Further information

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

Call +44 (0) 1223 43 2254/2380

Or email events@rsc.org

RSC conferences

Faraday Discussion

Advanced Vibrational Spectroscopy for Biomedical Applications

21–23 March 2016
Cambridge, UK

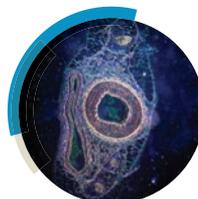
Oral abstract submission deadline – 6 July 2015

The time is right for a discussion meeting on the rapidly changing field of vibrational biomedical spectroscopy. Diagnostic and prognostic tools based on these new technologies have the potential to revolutionise our clinical systems leading to improved patient outcome, more efficient public services and significant economic savings for healthcare providers and society.

Help answer the many fundamental scientific and technological questions that need to be addressed before any of this can happen by submitting an abstract within these themes:

- spectral pathology
- single cell analysis/data handling
- clinical spectroscopy
- biofluids and other techniques

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



Faraday Discussion

Designing New Heterogeneous Catalysts

4–6 April 2016
London, UK

Oral abstract submission deadline: 20 July 2015

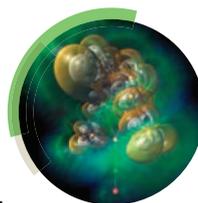
Catalysis is a core area of contemporary science posing major fundamental and conceptual challenges. It is also at the heart of the chemical industry, playing a crucial part in the production of 80% of all manufactured goods.

Help shape the discussion around the design of new heterogeneous catalysts by submitting an abstract within these themes:

- catalyst design from theory to practice
- designing new catalysts: synthesis of new active structures
- bridging model and real catalysts
- application of novel catalysts

The aim of this meeting is to develop fundamental understanding of key aspects of catalytic science, especially relating to knowledge that is essential for the design of new catalysts: catalyst preparation and production, the determination of atomic-architectures of active, reactive and de-activated catalysts and modelling of the active site. Don't miss your chance to be involved.

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



DATES AND DEADLINES

Challenges in Chemical Biology (ISACS16)

15–18 June 2015

Zurich, Switzerland

Early bird registration deadline: 27 April 2015

Final registration deadline: 18 May 2015

<http://rsc.li/isacs16>

Medicinal Chemistry Residential School

21–26 June 2015

Loughborough University, UK

Final registration deadline: 17 May 2015

<http://rsc.li/med-chem-2015>

Analytical Research Forum 2015

3 July 2015

London, UK

Early bird deadline: 29 May 2015

Bursary deadline: 29 May 2015

<http://rsc.li/arf15>

Solid Oxide Electrolysis: Fuels and Feedstocks from Water and Air (Faraday Discussion)

13–15 July 2015

York, UK

Early bird deadline: 25 May 2015

Final registration deadline: 15 June 2015

<http://rsc.li/electrolysis-fd2015>

12th International Conference on Materials Chemistry (MC12)

20–23 July 2015

York, UK

Poster submission deadline: 11 May 2015

Early bird registration deadline: 1 June 2015

<http://rsc.li/mc12>

24th International Symposium: Synthesis in Organic Chemistry (OS24)

20–23 July 2015

Cambridge, UK

Final registration deadline: 31 May 2015

<http://rsc.li/os24>

Events

Further information

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

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

EASTERN

East Anglia Section

Dr Keith Taber – RSC Award Lecture

20 May
University of East Anglia, Norwich
Dr Keith Taber of the University of Cambridge will give a lecture in honour of his RSC Education Award: The Imaginary and the Imagined: When Scientific Concepts Meet Students' Conceptions.

Contact John Fielden
01603 593137
john.fielden@uea.ac.uk

Essex Section

Spring Lunch

13 May
Galleywood Heritage Centre, Chelmsford
Lunch followed by a talk from Mr Nick Wickenden from the Chelmsford Museum entitled Roman Chelmsford. There is a £10 charge per attendee.

Contact Colin Ward
01375 407361
colinmward@blueyonder.co.uk

Mid-Anglia Section

Private Evening Tour of Cambridge University Botanic Garden

14 May
Cambridge University
The Botanic Garden was established as a University teaching and research resource by Professor John Stevens Henslow, and was opened to the public in 1846. Tickets cost £10 each.

Contact John O'Toole
01223 894174
john.otoole9@btopenworld.com

Building Stones of Cambridge – Geology Walking Tour

18 June
Cambridge City Centre
The buildings of Cambridge are world famous, both for their architectural splendour and for their historical record of university and town development over 750 years. This tour takes in a wide variety of buildings and rock types in a compact area of the city centre. The route involves about a mile and a half of walking and explores a different area of the city from previous tours. There is a charge of £5 per person.

Contact John O'Toole
01223 894174
john.otoole9@btopenworld.com

INTERNATIONAL

Tunisia Section

1st Tunisian Chemical Society Conference on Coordination Chemistry

8-10 May
Sol Azur Beach Hotel, Hammamet
The conference provides a forum for discussions of all aspects of coordination chemistry and gives an overview of state of the art developments in this field.

Young chemists are particularly encouraged to participate and they will find answers to questions that stimulate their continued research.
Contact Events Department, RSC
01223 434048
events@rsc.org

Teacher Training Scholarships

Inspire the next generation

Apply for a Royal Society of Chemistry Teacher Training Scholarship

<http://rsc.li/teacher-scholarships>



International Symposium on Energy Conversion and Storage

31 May-1 June
Institute of Process Engineering, Chinese Academy of Sciences (IPE-CAS) Beijing, China
The symposium is supported by the Royal Society of Chemistry, and is hosted by Professor Dan Wang at the Institute of Process Engineering, Chinese Academy of Sciences.

Contact Events Team RSC, China
+86 (0)10 5982 2341
ChinaEvents@rsc.org

Organic Chemistry Symposia – Sendai

1 June
Tohoku University, Sendai, Japan
The symposium will bring together leading international scientists delivering lectures which cover the broad spectrum of organic synthesis, from small organic molecules to biomolecules and organic materials. It will comprise three one-day meetings each one featuring a selection of Japanese and international speakers. There will also be seminars on publishing by Royal Society of Chemistry Journal Editors. Registration is free.
Contact Events Department, RSC
01223 434048
events@rsc.org

Organic Chemistry Symposia – Tokyo

3 June
Tokyo University, Japan
The symposium will bring together leading international scientists delivering lectures which cover the broad spectrum of organic synthesis, from small organic molecules to biomolecules and organic materials. It will comprise three one-day meetings each one featuring a selection of Japanese and international speakers. There will also be seminars on publishing by Royal Society of Chemistry Journal Editors. Registration is free.
Contact Events Department RSC
01223 434048
events@rsc.org

Organic Chemistry Symposia – Kyoto

5 June
Kyoto University, Japan
The symposium will bring together leading international scientists delivering lectures which cover the broad spectrum of organic synthesis, from small organic molecules to biomolecules and organic materials. It will comprise three one-day meetings, each

featuring a selection of Japanese and international speakers. There will also be seminars on publishing by Royal Society of Chemistry Journal Editors. Registration is free.
Contact Events Department
01223 434048
events@rsc.org

Chemistry Biology Interface Division

6th European Conference on Chemistry for the Life Sciences

10-12 June
Reitoria da Universidade Nova de Lisboa, Lisbon, Portugal
The conference will provide an excellent opportunity to view state of the art research and network with other European chemical biologists. It is run by the EuCheMS Division for Chemistry in the Life Science in collaboration with the European Federation for Medicinal Chemistry.
Contact Sofia Pauleta
+35 1212948835
srp@fct.unl.pt

ISACS16: Challenges in Chemical Biology

15-18 June
ETH, Zurich, Switzerland
The event will bring together world-leading experts from several disciplines under the broad subject of chemical biology. The diverse subject scope will provide a broad overview of some of the key challenges within cutting edge areas of chemical biology with many opportunities for networking. Our hope is that delegates will be exposed to new areas of research, encouraging the cross fertilization of ideas. There will be extensive poster sessions in the evening and questions after each talk.
Contact Events Department, RSC
1223 434048
events@rsc.org

Right on Target – Sector Specific Formulation for Performance Optimisation and Control (Royal Society of Chemistry Symposium 2015 at Chemspec Europe)

24-25 June
Koelnmesse, Cologne, Germany
This two day international symposium organised by the RSC Speciality Chemicals Sector at the 2015 Chemspec Europe & Chemsourc Exhibitions organised by Quartz Chemicals in Cologne.
Contact Patricia Keen
01606 888005
patricia.keen@dpwe.co.uk

EVENTS

IRELAND

Northern Ireland Section

Annual Dinner

1 May
Ulster Reform Club, Belfast
The guest speaker at the Northern Ireland Local Section Annual Dinner is RSC deputy chief executive Stephen Hawthorne.
Contact Dermot Hanna
07894 309840
hughdiarmaid@btinternet.com

MIDLANDS

Other Events

Medicinal Chemistry Residential School 2015

21-26 June
Burleigh Court Conference Centre, Loughborough University
Contact RSC Events
01223 434048
events@rsc.org

NORTH EAST

Central Yorkshire Section

Retired Members' Lunch

6 May
Leeds City College, The Food Academy
All retired members in the Central Yorkshire Members' Section are invited to lunch.
Contact Allan Stewart
01943 969322
allstewart@hotmail.co.uk

Sheffield and District Section

Annual General Meeting

14 May
University of Sheffield
Contact Jackie Morton
01298 218437
jackie.morton@hsl.gsi.gov.uk

Summer Social

18 June
The Fat Cat, Sheffield.
Beer garden social
Contact Jackie Morton
01298 218437
jackie.morton@hsl.gsi.gov.uk

Other Events

Analytical Division – North East

Analytical Science in Art

14 May
Northumbria University, Newcastle upon Tyne
An early evening symposium on the application of analytical science to works of art.
Contact Professor John R. Dean
0191 227 3047
john.dean@northumbria.ac.uk

Structured Soft and Biological Matter

9 June
Calman Learning Centre, Durham University
This one-day meeting, co-organised by the Royal Society of Chemistry journal *Soft Matter* and the Durham Centre for Soft Matter, will mark the 10th anniversary of the launch of *Soft Matter*. Featuring thought-provoking talks from members of the *Soft Matter* Editorial Board, the meeting will contain two theme sessions: one focussing on the chemistry, physics and dynamics of condensed polymer rings, and the second on nanostructured soft materials. The aim is to explore the essential structures of these soft matter systems at different length scales, and compare and contrast differences between biological and non-biological soft matter.
Contact Nicola Wise, RSC
01223 432438
softmatter-rsc@rsc.org

NORTH WEST

Liverpool Section

Retired Members' Lunch and Talk

13 May
Southport Masonic Hall
A three-course lunch will be followed by a talk on the Prehistoric Footprints at Formby. Tickets are £16 and members can bring a guest.
Contact Dr Bob Lee
0151 334 7875
drboblee@msn.com

Annual General Meeting and Lecture

14 May
The National Wildflower Centre, Knowsley, Liverpool
The meeting will be followed by a lecture entitled *The Light Fantastic: Photodynamics in the Age of Drug Resistance* by Mark Wainwright, Professor of Chemotherapy in the School of Pharmacy & Biomolecular Sciences at Liverpool John Moores University.
Contact I Buschmann
0151 949 9304
ibuschmann.rsc@gmail.com

Retired Members' Event

23 June
Knowsley Hall, Prescot
Private Guided Tour of Knowsley Hall followed by afternoon tea. Tickets are £21 and members can bring a guest.
Contact Dr. Bob Lee
0151 334 7875
drboblee@msn.com

Other Events

Heterocyclic and Synthesis Group 22nd Lakeland (Grasmere) Heterocyclic Conference

7-11 May
Grasmere Village, Lake District
An excellent line up of plenary speakers will be supported by a large number of supporting talks and postgraduate short talks, as well as a poster session.
Contact Professor Adrian Dobbs
020 8331 9689
a.dobbs@gre.ac.uk

Organic Division North-West Regional Meeting

20 May
University of Liverpool, Central Teaching Hub.
The meeting will cover a broad range of organic chemistry including catalysis, supramolecular chemistry and medicinal chemistry.
Contact Richard Cosstick
0151 794 3514
rcosstick@liv.ac.uk

Professor Michael Willis RSC Award Lecture

10 June
The University of Manchester, Chemistry Building
Contact Lu Shin Wong
0161 306 8939
l.s.wong@manchester.ac.uk

Professor Milo Shaffer: Corday-Morgan Prize 2014 Lecture Tour

19 June
University of Manchester, School of Chemistry Building
Contact Sven Koehler
0161 306 4448
sven.koehler@manchester.ac.uk

NMR Discussion Group Postgraduate Meeting

25 June
University of Manchester, School of Chemistry Building
This meeting is designed to showcase the research work of early career researchers, including postgraduates, early career postdoctoral workers and young industrialists whose work has a strong NMR content. Following on from previous years, there will be two overview lectures by established NMR spectroscopists. This event provides an ideal opportunity for early career researchers to gain experience in presenting their work, either in poster format or via oral presentation.
Contact Stephen Byard
01665 608544
stephen.byard@covance.com

SCOTLAND

Mid-Scotland Section

Senior Members' Afternoon Tea

5 May
Bluebell Tea Room
An invitation to all our Senior Members to come along to renew old acquaintances and to catch up with all the news while enjoying a leisurely afternoon tea.
Contact Douglas McMillan
douglas_mcmillan@hotmail.co.uk

SOUTH EAST

Downland Section

Visit to the Mullard Space Science Laboratory (MSSL)

20 May
The Mullard Space Science Laboratory, Holmbury St. Mary, Dorking
UCL's Department of Space and Climate Physics (MSSL) is a world-leading research organisation and is the UK's largest university-based space research group.
Contact John Harbridge
01306 881520
jharbridge@sky.com

Kent Section

RSC Golf Day 2015 at the Weald of Kent Golf Club

1 May
Weald of Kent Golf Club, Headcorn
With a variety of man-made and natural lakes and hazards the Weald of Kent is a challenge to golfers of all abilities. The Kent Section has kindly subsidised this event which is brought to you at a reduced price of £35 per person, and is open to both members and guests.

Contact Paul Douglas
07545 315123
paul.z.douglas@gmail.com

Tour of Hilger Crystals (Manufacturer of Synthetic Crystals)

26 June
Hilger Crystals, Margate
The Kent Section, in conjunction with Hilger Crystals, are running a tour of their manufacturing site which will also include a talk on the processes involved.

Contact Craig Milsted
01845 866668
craig.milsted@fujifilmsis.com

Other Events

Marketing Group

Food Colours Ancient and Modern – A Chemist's View – Tom Coultate

7 May
The Royal Society of Chemistry, Burlington House, London
Substances used to add colour in food have changed over time. In the 19th century they were lethal; unsurprisingly these were replaced. However, in the 20th century, many replacements turned out to be carcinogenic. A lot of currently used food colourings are 'natural' but these present their own problems. This lecture will explore these trends.

Contact Margaret Bond
020 8946 4608
margaret.3791@btinternet.com

Industry and Technology Division

Chemistry Means Business 2015

11 May
Royal College of Physicians, London
During the day our community of small and medium chemical companies will meet to network, receive key updates and share knowledge.
The event will conclude with the prestigious Industry & Technology Awards Ceremony hosted by comedian and presenter, Sandi Toksvig, to celebrate excellence across the industry.

Contact Events Department, RSC
01223 434048
events@rsc.org

Joint Pharmaceutical Analysis Group

Antibody Drug Conjugates: Analytical Efforts and Expectations.

14 May
The Royal Society of Chemistry, Burlington House, London
Antibody Drug Conjugates are an exciting and challenging new area of research and are becoming ever more popular across the industry with more than 50 ADCs reported in the clinic. The targeted nature of the molecules makes them extremely suitable for delivering toxic molecules to the target. This symposium brings together experts from across the industry to share their knowledge and learning for an engaging and exciting joint meeting with JPAG and DMDG.

Contact Amy Le Vannais
event@jpgag.org

Chemistry in Health Symposium 2015

26 May
The Royal Society of Chemistry, Burlington House, London
This symposium will highlight the value of chemistry and biochemistry in understanding disease and developing new therapeutics. Leading researchers will discuss their work ranging from chemistry-driven drug discovery, understanding the processes of infectious disease to the development of new antibiotics. We will also explore the development of new improved platforms for collaboration, such as Public Private Partnerships (PPP), which enable the research and development that is needed to better deliver the medicines of the future.

Contact RSC Science
01223 422699
science@rsc.org

Half Term Visit to the Royal Gunpowder Mills

27 May
Royal Gunpowder Mills, Waltham Abbey
Visit will include land train tour of site and visits to the main exhibition, Armoury, Film show, Women at war and Rocket Vault as desired. Cost £10 per adult and £5 per child, under twos free. To be paid in advance, booking closes two weeks before visit.
Contact Alan Osborne
020 8590 2021
dimequin@bushinternet.com

Consultancy Group Meeting and Annual General Meeting

27 May
The Royal Society of Chemistry, Burlington House, London
Members of the RSC Consultancy Group may attend the AGM after lunch without payment. Members wishing to do so should advise the Honorary Secretary by e-mail.
Contact Stephen Boyde
07734 985205
stephen.boyde@bm4tech.com

Automation and Analytical Management Group/ Analytical Division Bioanalytical Sensing Technologies

16 June
The Royal Society of Chemistry, Burlington House, London
The conference will examine the design and application of materials and development of sensors for monitoring medical and biological processes. It will be supplemented with poster presentations and an exhibition.

Contact R Narayanaswamy
07974 515265
conference@aaamg-rsc.org

Environmental Chemistry Group

Distinguished Guest Symposium on Nanomaterials and Annual General Meeting

24 June
The Royal Society of Chemistry, Burlington House, London
Nanomaterials – Environmental Remediation or Toxicants?
Hosting Professor Eva Valsami-Jones. The group's AGM will be held after the meeting.
Contact Rowena Fletcher-Wood
0121 414 5205
r.l.fletcher-wood@bham.ac.uk

Emerging Technologies Showcase 2015

29 June
The Royal Society of Chemistry, Burlington House, London
Join us to see our competition finalists present the latest technologies in the chemical sciences and hear about future trends in science and design from our visionary speakers. Network and form new collaborations with our guests from small companies, universities, multinationals, and investment firms. The event will conclude with a black-tie dinner at BAFTA 195 Piccadilly.
Contact Events Team, RSC
01223 434048
events@rsc.org

Polymer Chemistry, Hypervelocity Physics and Space Science

13 May
University of Kent
Professor Steven Armes, University of Sheffield, 2014 Interdisciplinary Prize Lecture. Awarded for his significant contribution to our current understanding of micrometeorites and the behaviour of cosmic dust particles.
Contact Jorge Quintanilla
01227 816024
j.quintanilla@kent.ac.uk

SOUTH WEST

Bristol and District Section

Visit to Butcombe Brewery

22 May
Butcombe Brewery, Wrington
Open to RSC members and guests. Limited numbers; advise contact if interested.
Contact Pam Day
0117 970 1860
pamday_rsc@btinternet.com

No More Drugs for Superbugs. The End of the Antibiotic Age?

10 June
Royal Agricultural University, Cirencester
Open to RSC members and guests.
Contact Colin Chapman
01453 547531
crc@lochin.fsnet.co.uk

Women Members' Network Meeting

30 June at 19.00
Zero Degrees, Bristol
Contact Beth Anderson
0117 331 7194
beth.anderson@bristol.ac.uk

EVENTS

Mid-Southern Counties Section

Annual General Meeting

12 May
Southampton University,
Department of Chemistry.
Contact Mariana Ghosh
07764 673431
mvg@soton.ac.uk

Annual Spring Lunch

16 May
The Three Lions Restaurant,
Stuckton, Fordingbridge
The cost of the three-course
lunch is £26.00 per head for RSC
members and their partners.
Non-members are welcome to
attend and the cost will be £32 per
head. Those wishing to attend are
asked to notify Ian Anderson by
Monday 4 May.
Contact Ian Anderson
02380 730673
ian_anderson@consult-igma.co.uk

Porous Organic Cages – More than MOFs Minus the Metals

17 June
Southampton University
Tilden Prize lecture: Professor
Andy Cooper of the University
of Liverpool.
Contact
02380 594176
sykhalid@googlemail.com

Other Events

Retired Members Luncheon

6 May
The Mill at Rode, near Frome
RSC Members, retired or not, are
welcome; contact if planning to
attend.
Contact Trevor Letcher
01761 232311
trevor@letcher.eclipse.co.uk

Analytical Division EAP 2015 Lighting the Way... For Analytical Scientists

8-10 May
Aztec Hotel and Spa, Bristol
Contact Charlene Butler
07731 477259
asnenquiries@hotmail.co.uk

RSC Prize Lecture

18 May
University of Bath, Department
of Chemistry
Professor Robert G. Bergman
(University of California, Berkeley)
received the 2014 Robert Robinson
Award for his outstanding
contributions in physical organic
and organometallic chemistry.
Contact Ulrich Hintermair
01225 386682
u.hintermair@bath.ac.uk

Chemical Biology and Bioorganic Group RSC Chemical Biology and Bio-Organic Chemistry Postgraduate Symposium

19 May
University of Bristol, School of
Chemistry
This one day meeting is open
to all, and is an opportunity for
postgraduate students to present
their work at a national level. The
day will conclude with a plenary
lecture from Professor Dek
Woolfson.
Contact M Carmen Galan
0117 928 7654
m.c.galan@bris.ac.uk

WALES

North Wales Section

RSC North Wales Annual General Meeting

14 May
The Albion, Conwy
The AGM will be followed by a
wine tasting experience and buffet
with opportunity to network with
fellow chemists from the North
Wales area.
Contact Andrew Clayton
01745 535213
rscnorthwales@gmail.com

South East Wales Section

Crystal Engineering of Task-Specific Materials

18 May
Cardiff University
The lecture will last approximately
one hour.
Contact James Redman
02920 876273
redmanje@cardiff.ac.uk

Boronic Acids: Recognition, Sensing and Assembly

1 June
Cardiff University
The lecture will last approximately
one hour.
Contact James Redman
02920 876273
redmanje@cardiff.ac.uk

Alkaloid Biosynthesis in Plants

8 June
Cardiff University
The seminar will last for one hour.
No registration necessary.
Contact James Redman
02920 876273
redmanje@cardiff.ac.uk

South Wales West Section

Science & Energy Demonstration Lectures for Schoolchildren (AM)

7 May
University of Wales, Trinity St David
A series of demonstration lectures
for schoolchildren where the
children carry out all of the
experiments.
Contact Neville Jones
01269 850815
dnj.derwydd@mac.com

Retired Members Meeting and Tea

18 June
Sketty Hall, Swansea
Contact John Davies
01792 894778
j.s.davies131@btinternet.com

Other Events

Science and the Assembly 2015

19 May
The Senedd and Pierhead,
Cardiff Bay
This event is designed to develop
closer links between the scientific
community in Wales and the
National Assembly for Wales and
the Welsh Government. This year's
scientific presentations are based
on the theme of Energy and the
Environment.
Contact Leigh Jeffes, RSC
07860 803724
jeffest@rsc.org

Notices

National Retrosynthesis Competition

Burlington House was the venue for the final of the 2nd National Retrosynthesis Competition, jointly organised by the Heterocyclic and Synthesis Group of the RSC, and the Fine Chemicals Group and Young Chemists Panel of the SCI, under the lead of Rob Wybrow of Syngenta, UK.

50 teams entered the preliminary round in December and ten were selected for the final by a judging panel of Professor Chris Willis (Bristol University), Professor Rob Stockman (Nottingham University), Dr Wes Heaton (GSK) and Dr Mike Mortimore (Vertex). The finalists were drawn from a broad cross-section of chemistry-based organisations, universities and academic institutions, pharmaceutical companies, CROs and agrochemicals.

In the final, teams presented their synthetic strategies for the recently identified, as yet unsynthesized natural product, alistonitrine A, and answered questions from the audience challenging their reasoning and route selection. Trophies for the winning teams were generously provided by Chemglass Life Sciences, and the overall winners

received an additional prize of a year's subscription to Natural Product Reports, provided by the RSC.

The winning team, One ED, represented Charles River Laboratories and received a Huber Unichiller 003-MPC (donated by Huber). The runners up were Oxford SBM Team from Oxford University and the third place on the podium was taken by Team Dalton Towers from the University of Manchester.

Based on enthusiastic, positive feedback from participants and special guests on the day, the competition was hugely successful, underlining the key central importance of synthetic organic chemistry in both fundamental and applied research in the UK. Taking that positive momentum forwards, the organising committee has already begun its planning for the 3rd National Retrosynthesis Competition, to be held in early March 2016.

The organising committee would like to thank all of the teams who entered for their contributions, the finalists, judges, guests, attendees, sponsors and exhibitors for their significant input into the event.

JECamp Retrosynthesis Winners 2015, left to right, Coura Diène, Jonathan Killen, Joe Marshall, Stephen Penrose, Andrew Roupany, Pascal Savy and William Esmieu.



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Rolling out teacher CPD

We run a wide range of Continuing Professional Development courses that help chemistry teachers develop their subject knowledge, pedagogical knowledge and confidence. Our courses cover a wide range of topics at secondary level and are suitable for teachers at all career stages. We offer both face-to-face and online courses, to suit individual teachers' needs. We have three series of courses available in the UK: Developing Expertise in Teaching Chemistry, Chemistry for Non-specialists and Inspiring Creative Chemistry Teaching.

"I came back with a bit of a buzz, more excited about the topics," says Jayne Melling, who is head of science at Norbury Manor Business and Enterprise College in Thornton Heath, and an associate member of the Royal Society of Chemistry.

"Your students feed off you and your reaction to a particular topic, so if you come back after a course with new ideas and approaches your enthusiasm is passed on to them. That makes them more interested and active in their learning."

Jayne says that CPD courses are very important for teachers, who can gain confidence and find new ways of looking at old problems.

"Even after more than a decade teaching, CPD is important to me because I want to be the best teacher I can be. It is easy to become

fixed in your ideas and approaches to teaching and sometimes you need some time take a fresh look at a topic."

Jayne cautions that sometimes it is difficult for teachers to take time to go to courses while also catering for all of their classes.

"Teachers are always conscious about taking time away from the class. The Royal Society of Chemistry also organises local teacher network meetings which works well. It means we don't have to travel far and we get to speak to teachers in the same area as us who probably face the same local community issues as us."

But as a faculty leader, she still encourages teachers to try to invest in their own continuing development. We have online course available, specifically to cater for teachers who can't get out of school.

"One of the best things about being a teacher is that it's not just the students who learn – you learn something new and different every day," she says.

We cater for the development of teachers at every stage of their career from initial teacher training to NQTs, and from specialists to non-specialists in Chemistry. More details about all our CPD courses, including our range of online courses, are available on our website.

Teacher Training making strides in science education in India

Words: Ershad Abubacker, Education Coordinator India.

The teacher training project of our Yusuf Hamied Inspirational Chemistry Programme has started to take small steps to create a long-lasting impact on science education in India. The project aims to enhance the skills and knowledge of Indian chemistry teachers and thereby inspire students to study chemistry at university. We have hired 42 talented chemistry teachers and given them the knowledge and skills to make them a Teacher Developer (TD). Working with these Teacher Developers, we aim to reach 8,000 teachers in a 'train the trainer' model.

Education in India has deep-rooted tradition of rote learning, which becomes very prominent in science education. Teacher development workshops help the professional advancement of teachers and encourage peer learning. Our teacher training course consists of three distinctive workshops: A four-hour workshop called Towards Active Learning and two three-hour workshops named Chemical Reactions & Equations and The Particle Nature of Matter.

We have had great response from the school community regarding the workshop. Two of our teacher developers delivered a course consisting of three workshops for the science teachers at Presidency School, Bangalore in February. Many teachers who have taken the training with us have reported back a gradual increase in student engagement in the learning process.

Though the training course is designed for and attended by Chemistry teachers at high school level, the success of the programme has meant that we have been invited by the Presidency Group to conduct this workshop for all teachers in their group of schools across the country. The same has been reflected by one of the teachers who said "Chemistry is no more a dry subject meant to be taught only in the laboratory, we can touch and feel chemistry and we realise that it is everywhere in our lives."



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Dalton Division Poster Symposium

Burlington House recently hosted the first ever Dalton Division Poster Symposium. After receiving a fantastic 157 abstracts, 33 PhD students and postdocs joined us for the final.

The symposium included both postgraduate and postdoctorate sections, with first prizes of a £1500 bursary to attend a conference of the winners choosing, and second prizes of book vouchers (kindly donated by Dalton Transactions).

On the day the winners were:

Postgraduate 1st Prize: Marina Uzelac, 2nd Prize: Luke Wilkinson

Postdoctorate 1st Prize: Paul Scattergood, 2nd Prize: Kasper Pedersen

Thank you so much to our sponsors (Glindemann, MBRAUN, Sasol, STREM and Dalton Transactions), and to all who took part. We hope that the next instalment will be an even greater success.

Fellow wins prestigious international prize

Professor Sir John Meurig Thomas FRSC, from the University of Cambridge, has won the influential Ahmed Zewail Prize in Molecular Sciences, for his 'outstanding contributions to the fundamental understanding of the structures and development and application of the concept of single-site heterogeneous catalysis'.

He is pictured at the ACS Myd in Denver and received the award from Professor David Clary FRS, Master of Magdalen College Oxford. Sir John says that he is: "Very proud of winning this biennial medal and prize, since it was a world-wide competition for all complexions of chemists and some physicists".



© JOHN MEURIG THOMAS

Apply now for the RSC/BMOS Young Investigator Awards 2015

The Royal Society of Chemistry and the organising committee of the 16th Brazilian Meeting on Organic Synthesis (BMOS) would like to invite you to apply for the RSC/BMOS Young Investigator Awards 2015.

The awards support early career researchers from the UK and Latin America to attend the 16th Brazilian Meeting on Organic Synthesis. Winners receive free registration to the meeting, a certificate, an invitation to deliver a flash presentation within the scientific programme and a contribution towards travel and accommodation to attend the conference.

The conference will be held in Búzios, Brazil from 15-18 November 2015 and will include presentations from internationally renowned leaders in the field.

The RSC/BMOS Young Investigator Award is sponsored by the Organic Division of the Royal Society of Chemistry.

Submissions should be made using the online registration service before the closing date, 15 July 2015. For more information and to apply, please visit <http://rsc.li/bmos-16>



Collaboration is vital for Africa

The Royal Society of Chemistry has signed a Memorandum of Understanding with GlaxoSmithKline Services Unlimited to prepare for future collaboration supporting the work of the Pan Africa Chemistry Network (PACN), focusing on Kenya, Nigeria, Ethiopia, and Ghana in particular.

The joint ambitions for work with PACN include making travel grants available to African scientists and looking at ways that GSK can work with leading academics to support the development of technical expertise. A formal agreement on the co-operation is expected within the next six months.

Andy Wright of GSK said: "This memorandum signals the start of a relationship with the Royal Society of Chemistry and scientists in the Pan Africa Chemistry Network to build skills, knowledge and capacity, and it reflects our long-term commitment to healthy, sustainable future for Africa."

"Collaboration is vital if we want to support African chemists to address the challenges that they face and to increase their contribution to human knowledge," said David Clark, "This collaboration with GSK will support new links between the African chemistry community and their colleagues in the UK and beyond, and provide excellent opportunities for skills development and knowledge exchange."



David Clark, Royal Society of Chemistry head of international development, with Andy Wright, Vice President Global Health Programmes at GSK.

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Deaths

Mr Ronald Joseph Balmer MRSC
Retired. Died 27 February 2015, aged 81

Mr Peter Birrell CChem FRSC(UK) Retired President, Dominion Colour Corporation. Date of death not supplied

Mr Peter Malcolm Brown CChem FRSC Retired chief analyst, Life Science Research. Died January 2015, aged 87

Mr Angus Hugh Buchan MRSC
Retired assistant engineer, special projects, British Gas Plc. Died 3 February 2015, aged 84

Professor Brian Frederic Carl Clark MRSC Professor, Aarhus Universitet. Date of death not supplied

Mr Michael James Clark MRSC
Retired lecturer in chemistry, Essex County Council. Date of death not supplied

Dr Maureen Elizabeth Cooper CChem MRSC Died 1 February 2015, aged 62

Mr Geoffrey Cule FRSC Retired health and safety executive. Died 6 February 2015, aged 75

Dr Robert McNaught Gailey MRSC Retired. Died 28 December 2014, aged 85

Mr Desmond Edward Herring CChem FRSC Retired technical manager, Quinton & Kaines. Died 26 February 2015, aged 86

Mr Donald Garton Heywood MRSC Retired director Pattinson & Stead. Died 31 January 2015, aged 90

Mr Allan Holbrook CChem FRSC Retired. Date of death not supplied

Dr Brian Keith Howe CChem FRSC Retired manager, British Technology Group. Died 12 February 2015, aged 87

Mr Brian George Huckstepp FRSC Research and development consultant. Died 2 February 2015, aged 74

Mr Brian Innes MRSC Retired. Date of death not supplied

Mr Alan Terence Keleher CChem MRSC Quality leader, Eli Lilly & Co. Died 18 May 2014, aged 59

Dr Ian Samuel Maines CChem MRSC Retired head of chemistry, St Benedict's School. Died 2 January 2015, aged 71

Dr Geoffrey Harry Mansfield CChem FRSC Retired. Died 26 February 2015, aged 89

Professor Karel Frederick Johannes Niebling CChem FRSC Professor. Died 18 February 2015, aged 90

Dr Derek Charles Nonhebel CChem FRSC Retired, University of Strathclyde. Died 28 November 2014, aged 81

Mr Kenneth Charles Nutt CChem FRSC Retired director, Salamon & Seaber Ltd. Died 28 February 2015, aged 93

Mr Bert Peutrell CChem MRSC
Retired spectroscopist, Boots Co. Plc. Died 7 February 2015, aged 81

Mr Alan George Quinn CChem MRSC Retired self-employed OFSTED Inspector of Schools. Died 14 February 2015, aged 74

Dr John Anthony Schofield CChem MRSC Retired senior scientist, Shell Research Ltd. Died January 2015, aged 84

Dr Peter Alan Arthur Scott CChem FRSC Retired. Died 12 February 2015, aged 89

Mr Clifford John Sharpe CChem FRSC Retired. Date of death not supplied

Mr Siew Khoon Shum CChem MRSC Retired senior lecturer, Singapore Polytechnic. Died 8 November 2014, aged 77

Mr Piero Stoppioni MRSC
Professor Università Di Firenze Dipartimento Di Chimica. Date of death not supplied

Mr Peter Michael Sutton MRSC
Retired chemistry teacher. Died 17 February 2015, aged 84

Mr William John Symons CChem MRSC Retired, PMG 3, UKAEA Technology. Died 17 February 2015, aged 78

Mr Selwyn Donald Williams MRSC Retired research manager, Laporte Industries Ltd. Died 5 February 2015, aged 87

Mr Ernest James Workman MRSC Retired senior technician, Bishop's Stortford High School. Died 3 December 2014, aged 78

To inform us of the death of an RSC member please contact the Membership Department on 01223 432141 membership@rsc.org



THE ROYAL SOCIETY OF CHEMISTRY'S

Summer Party at the Royal Academy of Arts

Thursday 16 July 2015, 7.30pm-10.00pm

Come and join us for our flagship event and celebrate the work of the Royal Society of Chemistry in the company of fellow members, colleagues, friends, industrialists, politicians and distinguished scientists, whilst viewing the largest contemporary art exhibition in the world.

Tickets include private admission to the Royal Academy of Arts Summer Exhibition, entertainment and a selection of food and drinks throughout the evening.

Dress code: Black tie, decorations

To purchase your tickets by credit/debit card please visit our website <http://rsc.li/summer-party> or complete the form below and return to the Royal Society of Chemistry Events team by booking deadline 22 June.

events@rsc.org

Please complete in CAPITAL letters and return to: Events Team, Royal Society of Chemistry,
Thomas Graham House, Science Park, Cambridge, CB4 0WF

Name: RSC Membership no:

Address:

Contact tel: Email:

Please state guest names and any dietary requirements for all guests:

Number of tickets at member rate of £65 each (maximum 2)

Number of tickets at non-member rate of £95 each

Please make your cheque payable to 'Royal Society of Chemistry' for £

Members regularly receive information about the Royal Society of Chemistry's activities, products and services. We would also like to keep non-members informed about future activities. If you are a non-member and you would prefer NOT to receive this information, please tick here.

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