

## DATABASE of speakers from RSCHG

Speaker	Contact details	Title	Abstract	Length
Andrea Sella	Inorganic Chemist EPSRC Senior Media Fellow Dept. of Chemistry, UCL +44(0) 20 7679 4687 20 Gordon Street London WC1H 0AJ	Classic Kit: An incomplete History of Practically Nothing	A talk about the apparatus of chemistry through bits of kit that have a name. Starting three thousand years ago with a mysterious alchemist whose simple device we still use today, we will talk about some legends of science: Bunsen, Erlenmeyer, Büchner, Hirsch and many more, looking at their lives, their loves and their sometimes spectacular deaths. But above all their extraordinarily clever contributions to our understanding of the world around us. This talk will be illustrated with examples of apparatus and demonstrations of how these things worked.	
Chris Cooksey	59 Swiss Avenue, Watford, WD18 7LL 01923 241688 dha@chriscooksey.demon.co.uk	Historic dyes and how to identify them.	This presentation covers the origin and identification of historic dyes and pigments on ancient and not so ancient artefacts using a variety of physical and chemical techniques. Up to the mid-20th century, analytical tools were too blunt to resolve many of the identification problems. Since then advances in chromatographic and spectroscopic methods have yielded a wealth of data about the identity of colorants. The dyes mentioned will include mauveine and fuchsine, lichen purple, madder, kermes, indigo and shellfish purple. Samples will be displayed for inspection. For a less chemically inclined audience, the presentation is modified to focus more on how the dyes were made and less on the analysis.	60 minutes
Viviane Quirke	vquirke@brookes.ac.uk	The material culture(s) of the British pharmaceutical laboratory, 1948-78		
Viviane Quirke	vquirke@brookes.ac.uk	The British tradition in the structural determination of molecules of biological importance		
Viviane Quirke	vquirke@brookes.ac.uk	Pharmaceuticals and 20th-century chemistry		

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Alan Dronsfield	Prof Alan Dronsfield (University of Derby) 4, Harpole Close Swanwick, Derbyshire, DE55 1EW 01773 608579	Marie Curie, the discovery of radium and its early use in medical therapy	<p>Until the start of the 20th century, the only effective treatment for cancer was surgical excision. Surgeons had to cut into nearby healthy tissue to be sure of removing all traces of the growth, sometimes with appalling disfigurement. However, Roentgen's x-rays and Marie Curie's radium (both from around 1900) proved useful alternatives to surgery. In the latter case, success rates were broadly similar.</p> <p>The first part of the lecture looks at the lives of Marie and Pierre Curie, and the circumstances that led to the discovery of radioactivity and radium. The second part will consider the therapeutic applications of radium compounds in the first thirty or so years after their discovery. Although the stress will be on cancer therapy, other applications, notably as patent medicines of no use apart from extracting money from the gullible, will be considered.</p>	50 minutes
Alan Dronsfield	Prof Alan Dronsfield (University of Derby) 4, Harpole Close Swanwick, Derbyshire, DE55 1EW 01773 608579	The First World War – its chemical origins	<p>Although poison gases were first employed in the 1914-18 war, the consequent fatalities were relatively few compared to the millions who perished through the application of high explosives and synthetic propellants. The 19th century chemistry which underpinned the industrial production of these materials, particularly in Germany will be the main feature of the talk. Large scale manufacturing organic chemistry really started with the synthetic dyestuffs industry, and the lecture will include at least one demonstration of early dyeing. The talk is particularly effective in the two weeks preceding Remembrance Sunday.</p>	50 minutes with one demonstration of dyeing; 60-70 minutes if there are four demonstrations
Alan Dronsfield	Prof Alan Dronsfield (University of Derby) 4, Harpole Close Swanwick, Derbyshire, DE55 1EW 01773 608579	To Sleep, Perchance to Dream – the early chemical history of anaesthesia	<p>This talk will recount the discovery of the anaesthetic agents, ether, chloroform and nitrous oxide, together with short digressions to include the other materials which enjoyed more transient popularity such as coal gas and dichloromethane. It will include the means used to ensure that the patients received sufficient agents to render them insensible, but only temporarily so. Small samples of some of the classic anaesthetics will be available for members of the audience to experience them, safely, under controlled conditions. By arrangement, a visiting anaesthetist may be able to take part in a concluding question-and-answer session concerning some aspects of current anaesthetic practice.</p>	45-50 minutes + question-and-answer session, if included

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David Leaback	Biolink Technology Ltd., Radlett, Herts, WD7 8BD, UK	Making the History of Chemistry Work	In English the word 'chemistry' often denotes mysterious and seemingly unfathomable forces influencing interactions between human beings. My recent work has indicated that a high proportion of those who have successfully spent their working lives in British chemistry, were first attracted to the subject before the age of 12 years, either via parents and/or by (now-deemed 'hazardous') chemistry sets. All this indicates that chemistry is only comprehensible to those long-accustomed to how matter behaves in the esoteric nanometre 'world' of atoms & molecules, which is especially unfortunate since we now live in an age increasingly calling for knowledge of such matters yet decreasingly accessible to current children below the age of 12. Over the past decade however, I have developed an exciting new approach to remedy this dilemma, via making the history of chemistry work.	30-40 minutes
John Hudson	Graythwaite, Loweswater, Cockermouth, Cumbria CA13 0SU Tel: 01946 861555 Email: johnhudson25@hotmail.com	The Railway Chemists 1830-1923	From the very early days of the railway age, the railway companies hired chemists as consultants, and by the early 20 <sup>th</sup> century, all the large railway companies had their own laboratories and employed their own chemists. This talk will discuss the contributions made by the chemists to the development and running of the railways up to 1923, when the many railway companies then in existence were reorganised into four large groups. Initially chemists were employed to perform tasks such as analysing water for use in locomotive boilers, assessing the quality of supplies of coal and coke, and advising on matters such as timber preservation. However, by the early 20 <sup>th</sup> century their remit had expanded enormously. As well as performing quality control analyses on the multitude of materials purchased by the railways, the chemists were involved in a number of research projects, and were also concerned with a wide range of safety issues. Furthermore, a number of analytical methods were developed or improved by the railway chemists. The role of chemists employed by the railways has hitherto received relatively little attention, and this lecture aims to put the record straight.	50-55 minutes

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John Hudson	Graythwaite, Loweswater, Cockermouth, Cumbria CA13 0SU Tel: 01946 861555 Email: johnhudson25@hotmail.com	Josiah Wedgwood, Potter and Scientist	This talk gives an outline of Wedgwood's life and work, with slides of some of his more famous products. But Wedgwood was also a scientist, becoming a Fellow of the Royal Society, and publishing five papers in its <i>Philosophical Transactions</i> . The talk makes the case that Wedgwood's success as a potter was in part due to his ability as a scientist and the careful experimental approach he adopted in perfecting his wares.	45-50 minutes
John Hudson	Graythwaite, Loweswater, Cockermouth, Cumbria CA13 0SU Tel: 01946 861555 Email: johnhudson25@hotmail.com	Alchemy or How to Make Gold	This talk takes a light-hearted look at the long history of alchemy. It discusses the various phases of alchemy – in Alexandria, Ancient China, the Islamic world, and in Europe. It describes what the alchemists were trying to achieve (not only the production of gold), and how they went about their quest. Finally the talk considers whether or not the modern chemist is in any sense indebted to the work of the alchemists.	50 minutes
John Nicholson	University of Greenwich J.W.Nicholson@greenwich.ac.uk	Molecules and Murder	<p>This general interest lecture covers the subject of poisons and their chemistry. It considers which substances are poisonous, and how they work when taken inside the body. The difficulties with defining a poison are covered, and well known specific poisons (arsenic, cyanide, strychnine, hyoscine and thallium) are described. Also described are cases in which they were used, stretching back as far as William Palmer in the 1850s. Other accounts include the stories of Dr Crippen, Graham Young and Napoleon's wallpaper.</p> <p>The lecture includes some detailed chemistry, and it has a strong historical theme. It aims to put the spotlight on an unusual branch of the subject, and show how forensic chemistry has developed over the years.</p>	50 minutes
Gordon Woods	gandp16@talktalk.net Tel: 01572 755371	Meet Mendeleev, the man and his matrix	Listen to a bearded figure in 19th century dress tell of how he first formulated the chemists' icon, the Periodic Table. Initially ignored in distant Russia, the discoveries by others catapulted it to a likely idea and ultimately to the cornerstone of chemistry. Incidents from his personal life, less familiar to chemists, portray the man. A teenage orphan became a bigamist and Russia's leading scientist. A performance rather than a lecture. The level of the PowerPoint presentation is tailored to the audience, as is the duration 35-50 minutes.	35-50 minutes

Speaker	Contact details	Title	Abstract	Length
Colin Russell	Prof. C. A. Russell 64, Putnoe Lane, BEDFORD, MK41 9AF. Colin.Russell@open.ac.uk	Forgotten chemist? why Edward Frankland has often been overlooked.	A real chemical mystery. Frankland was regarded in his lifetime as Britain's leading chemist. Why most people today have never heard of him depends less on his chemistry than on his social background. It is salutary warning tale to all would-be historians of chemistry (or anything else)..	
Colin Russell	Prof. C. A. Russell 64, Putnoe Lane, BEDFORD, MK41 9AF. Colin.Russell@open.ac.uk	Dundonald, founder of the Scottish chemical industry?	How a peer of the realm forsook his family's distinguished naval tradition, took up chemistry, and died in near-poverty. Yet his extraordinary discoveries laid the foundation for his country's chemical industry.	
Colin Russell	Prof. C. A. Russell 64, Putnoe Lane, BEDFORD, MK41 9AF. Colin.Russell@open.ac.uk	Chemistry and the argument from design.	The arguments for design in nature have come mainly from biology (despite Darwin). Yet certain truly remarkable features of some very simple chemical entities have led to a long debate about design in chemistry itself.	
Colin Russell	Prof. C. A. Russell 64, Putnoe Lane, BEDFORD, MK41 9AF. Colin.Russell@open.ac.uk	Any biographical theme on Frankland, Dundonald, Crookes, Davy, Berzelius, Dalton etc.	A brief look at some of the men who transformed our understanding of how atoms actually got together to form molecules.	
Bill Griffith	Prof. W. P. Griffith, Dept. of Chemistry, Imperial College, London, SW7 2AZ w.griffith@ic.ac.uk	Marie Curie - a Celebration of her life	Marie Curie (1867-1934) was a truly remarkable woman, and the centenary of her second Nobel prize, in chemistry, falls in the International year of Chemistry 2011. She had already, together with her husband Pierre and jointly with Henri Becquerel, been awarded the Physics Nobel prize for work on radioactivity in 1903: the Curie family were awarded in all six Nobel prizes. She was born in Warsaw as Maria Skłodowska but did her radioactivity research in France, much of it with her husband Pierre Curie. Her life had its tragic aspects, but she and Pierre had remarkable achievements, including the discovery of polonium and radium (for which Marie was awarded the 1911 Chemistry prize) and the isolation and use of radium. This talk relates her very unusual story and deals briefly with the work of her daughter Irène and Frédéric Joliot Curie (joint Nobel prize in chemistry 1935), and the discovery of francium and curium. It is hoped to include a demonstration.	45-50 minutes

Speaker	Contact details	Title	Abstract	Length
Bill Griffith	Prof. W. P. Griffith, Dept. of Chemistry, Imperial College, London, SW7 2AZ w.griffith@ic.ac.uk	The early history of chemistry at Imperial College	The Royal College of Chemistry – precursor of Imperial College - was founded in 1845 with the help of Prince Albert. Its first professor was A. W. von Hofmann, a charismatic teacher and researcher to whom Imperial College owes its existence. This tells of those challenging and dramatic early days, which produced such chemical pioneers as William Perkin, who discovered the dye Mauveine and led to the foundation of the British chemical industry; William Crookes, discoverer of thallium; Edward Frankland, the 'father of organometallic chemistry'; John Newlands, who devised an early form of the Periodic Table, and of many other players in those early, formative years of chemistry.	40 minutes
Bill Griffith	Prof. W. P. Griffith, Dept. of Chemistry, Imperial College, London, SW7 2AZ w.griffith@ic.ac.uk	The history of the platinum group metals	Platinum is a metal of antiquity but the other five (rhodium, iridium, ruthenium, osmium and palladium) were discovered in the nineteenth century. Each discovery has a tale to tell, that of palladium in particular in particular involving chicanery and deceit (though truth triumphs in the end). This talk would explore the fascinating circumstances of discovery of the six metals, each of which has a vital role to play in modern industrial and ecological processes.	40 minutes
Frank James	Frank A.J.L. James Professor of the History of Science The Royal Institution, 21 Albemarle Street, London, W1S 4BS fjames@ri.ac.uk	Davy [general, biographical based]		40-60 minutes
Frank James	Frank A.J.L. James Professor of the History of Science The Royal Institution, 21 Albemarle Street, London, W1S 4BS fjames@ri.ac.uk	Faraday [general, biographical based]	optionally with two demonstrations.	40-60 minutes

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Frank James	Frank A.J.L. James Professor of the History of Science The Royal Institution, 21 Albemarle Street, London, W1S 4BS fjames@ri.ac.uk	History of the Royal Institution	a general talk	40-60 minutes
Duncan Thorburn Burns	Prof. D. Thorburn Burns School of Chemistry and Chemical Engineering The Queen's University of Belfast Belfast, BT9 5AG 02890668576 (home) 02890975442 (work) d.t.burns@qub.ac.uk	Sir Charles Alexander Cameron (1830-1921): Dublin's Medical Officer Superintendent, Executive Officer of Health, Public Analyst, and Inspector of Explosives.	The life and times of Sir Charles Cameron are reviewed briefly. Cameron was only the third Public Analyst appointed in the UK following the 1860 Food and Drugs Act; due to the peculiar by-laws in Dublin he was able to bring cases to the Courts, as a consequence the Act was amended to permit similar success in prosecutions in the rest of the UK. Attention is given to his publications and to some of the less well known aspects of his social and professional life. An account will be provided of his influence, via the Irish Analysts Association, on professional integrity and fair play amongst analysts in Ireland. The lecture, 50 minutes or so, uses PowerPoint or overhead slides, is extensively illustrated, and can be made suitable for a non technical audience.	50 minutes
Duncan Thorburn Burns	Prof. D. Thorburn Burns School of Chemistry and Chemical Engineering The Queen's University of Belfast Belfast, BT9 5AG 02890668576 (home) 02890975442 (work) d.t.burns@qub.ac.uk	Richard Kirwan, 1733-1812: "The Philosopher of Dublin"	Richard Kirwan belongs to the phlogistic period of chemistry when the foundations of stoichiometry were laid. His life and times will be outlined followed by his scientific and technological studies, including his chemical contributions which were to chemical affinity, mineral water analysis, phlogiston, chemical nomenclature, hepatic air and mineralogy; in physical science to meteorology and specific heats. He also published on metaphysical topics. In recent times Kirwan's contributions across several areas of science have been undervalued. In his day he was clearly at the forefronts of chemistry, mineralogy and meteorology and was well regarded by his peers. His lasting contributions to chemistry and mineralogy far outweigh the necessary changes he had to make to his understanding of chemical theory, via the demise of phlogiston, changes in any case, that were caused to a great extent as a result of his personal endeavours. Original journal publications and books are available	

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Michael Spiro	Professor Michael Spiro The Garden Flat 19 Steele's Road London NW3 4SH 020 7586 1288	Alfred Nobel: His Life and His Prizes	Not many people know about the life (1833 – 1896) of Alfred Nobel who had wanted to be a writer but was persuaded by his father to become instead a major industrial chemist, inventor and manufacturer of novel explosives. In his 3rd will he left his large fortune to establish the most coveted international awards to outstanding chemists, physicists, physiologists, and writers as well as (under the influence of the one woman he had wanted to marry but could not) to persons who had done the most for peace between nations.	
Michael Spiro	Professor Michael Spiro The Garden Flat 19 Steele's Road London NW3 4SH 020 7586 1288	How Vitamins were discovered	Although Liebig showed in 1846 that foodstuffs consisted of carbohydrates, fats and proteins, Frederick Gowland Hopkins announced in 1912 that mice did not survive on a synthetic diet comprising only these constituents and salt. A normal diet, he concluded, must therefore contain unknown 'accessory food factors'. The search for these in various laboratories using animal studies revealed that absence of these factors, later called vitamins, were the causes of scurvy, beri-beri, rickets and pellagra. Chemical separation techniques enabled 13 fat-soluble and water-soluble vitamins to be isolated and identified. In 1933 Haworth first synthesized vitamin C. Several Nobel prizes in Chemistry or in Medicine were awarded to vitamin pioneers. Their work has led to better nutrition and health for both humans and animals.	
Michael Spiro	Professor Michael Spiro The Garden Flat 19 Steele's Road London NW3 4SH 020 7586 1288	Nobel Prizes and Political Controversies	Countries whose citizens receive Nobel prizes are usually delighted and fete the recipients. But not always! In the 20th century (and recently in the 21st) several regimes have regarded such awards as external interference and punished the chemists, physicists, medical researchers, writers and peace campaigners who had been so honoured by Nobel prizes. This talk will explain why and tell the stories of what happened to those involved.	

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Michael Spiro	Professor Michael Spiro The Garden Flat 19 Steele's Road London NW3 4SH 020 7586 1288	Hot and Stimulating : a Tale of Tea and Coffee	The discovery of tea and coffee, their introduction into Britain in the 1650s, and their subsequent marketing have played a large role in our way of life. Their continuing popularity arises from the sensory effects of the compounds formed when green tea leaves are converted into black tea, and when coffee beans are roasted, both major chemical processes. Recent research has shown how fast and to what extent these compounds are extracted into hot water to produce the beverages we drink, and the unusual role played by the water used in the brewing of tea.	
Peter Reed	East Priddleton Priddleton Court Steensbridge Leominster HR6 0RU Tel: 01568 760479 Email: peter@peterreed.plus.com	The British Indigo Trade	Indigo has been revered as a dye for many thousands of years and its main country of origin was India. With interest in synthesizing dyestuffs during the second half of the 19th-century several German companies found reaction pathways for synthetic indigo. Meister, Lucius and Brüning took out a British patent, effectively blocking any British company from using the patent while there was no obligation on the German company to work their process in Britain. This talk reviews these developments, how changes to the patent law in 1908 forced MLB to work their patent in Britain, only for the British Government to sequester the works in 1914 and how British manufacturers put the works back into operation within three months – a remarkable success story.	60 minutes, plus Q&A
Peter Reed	East Priddleton Priddleton Court Steensbridge Leominster HR6 0RU Tel: 01568 760479 Email: peter@peterreed.plus.com	The Inspectors in Action	Following the introduction of the Leblanc process into Britain in 1814 to produce soda from salt, alkali works were accused of creating a nuisance with the release of hydrogen chloride gas – ‘The Monster Nuisance of All’. The Alkali Works Act of 1863 created the Alkali Inspectorate with inspectors required to visit works to ensure at least 95 per cent of the hydrogen chloride was condensed. This talk reviews the work of the Inspectorate under Robert Angus Smith, the inspection of works, the development of automated aspirators to collect gas samples, the dangers inherent in clambering through flues or climbing acid towers (often at night), the peripatetic role of the inspectors’ work and the increasing range of noxious vapours to be regulated.	45-60 minutes, plus Q&A

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Peter Reed	East Priddleton Priddleton Court Steensbridge Leominster HR6 0RU Tel: 01568 760479 Email: peter@peterreed.plus.com	Robert Angus Smith and Acid Rain	In 1859 Robert Angus Smith became the first person to use the term “acid rain”, prompted by his concern about the air in Manchester where he worked as a consulting chemist. He became a regular contributor on air quality to Royal Commissions and other Parliamentary enquiries. His traumatic experience in a pollution court case lead him to mount a campaign alongside other eminent scientists to change the role of expert evidence. In 1863 Smith was appointed Inspector of the Alkali Inspectorate and in 1876 as Inspector under the Rivers Pollution Prevention Act. Smith’s approach to regulation provided the framework that continued through until the 1990s, and this talk explores the experiences that made him such an outstanding “civic scientist”.	45-60 minutes, plus Q&A
Viviane Quirke	vquirke@brookes.ac.uk	From dyestuffs to pharmaceuticals: ICI and the British drug industry, ca 1940s-1970s		
Viviane Quirke	vquirke@brookes.ac.uk	Chemistry, the pharmaceutical industry, and medicine in the twentieth century: drugs as “boundary objects”		
Viviane Quirke	vquirke@brookes.ac.uk	From chemicals to pharmaceuticals to biotechnology: the transformation of ICI in the twentieth century		