



**Educational Activities
for Higher Education and
Professional Practice**

Introduction

The Royal Society of Chemistry (RSC) is the leading organisation in Europe for advancing the chemical sciences. Supported by a network of 43,000 members worldwide and an internationally acclaimed publishing business, our activities span education and training, conferences and science policy, and promoting the chemical sciences to the public.

We are the largest non-government supporter of chemical science education in the UK and actively support chemical science education at all levels with an extensive programme of activities. As the professional body for chemical scientists in the UK, the RSC is responsible for maintaining high standards of qualifications, competence and professional practice amongst chemical scientists.

The RSC has supported the teaching and learning of the chemical sciences in Higher Education over many years and continues to promote and develop initiatives to enhance the quality of chemical science courses.

► Guidance documents

The RSC has published sets of guidelines, for various audiences, relating to degree courses.

- **Chemistry degree courses: a guide for parents** - An information booklet aimed at parents whose children are thinking about studying chemistry at university. The guide includes information on the different types of chemistry degree courses available in the UK, career opportunities for chemistry graduates and the financial rewards of studying chemistry. www.rsc.org/parents
- **Key skills for scientists: Getting the message across** - Aimed at Higher Education students and graduates, this booklet contains guidance on effective communication. It includes tips and advice on giving presentations, preparing a poster, note-taking, keeping a laboratory notebook, report-writing, and networking. www.rsc.org/keyskills

► Education Issues

Short publications and online information summarising national developments and topical issues within the education system. The most recent editions include: *The Education System in Northern Ireland*, *The Bologna Process* and *Progress Files in Higher Education*. www.rsc.org/Education/Policy/Edissues/index.asp

► Education Division

The Education Division is one of the major forums which RSC members are eligible to join. It promotes the study and dissemination of knowledge of chemical education at all levels through national meetings and regional activities. The Division has nine Regions and five specialist Interest Groups. www.rsc.org/educationdivision

► Bursaries, funds, grants and awards

The RSC offers a wide range of bursaries and grants, including funds for travel to RSC conferences, organisation of educational activities and research. We also administer awards and lectureships intended to recognise achievements and disseminate good practice. These include:

- **Education Initiatives Fund** – Small amounts of funding for novel educational activities (including outreach projects) aimed at school and college aged students. www.rsc.org/initiativesfund
- **Education Division Higher Education Teaching Award** - Recognition for high quality teaching and/or development of innovative teaching materials and methods. The award winner gives lecture presentations at UK universities. www.rsc.org/heteachingaward
- **Student Chemical Society grants** – Grants of up to £500 per academic year to help Student Chemical Societies stage an RSC lecture or event. www.rsc.org/studentnetwork
Details of all RSC awards and funding can be found at www.rsc.org/funding.

► Cutter Bequest

The Cutter Bequest is a fund used to support curriculum

development in Higher Education through the development of various publications. The three most recent awards were made in 2004.

- **Case Studies for Undergraduate Chemical Courses** - A series of problem solving case studies, based on real events, involving industrial, environmental and analytical chemistry which concentrate on core areas of the undergraduate curriculum.
- **Green Chemistry in Undergraduate Practical Courses** - These new undergraduate practicals demonstrate the applications of some of the principles of green chemistry to synthetic organic chemistry.
- **Spot Checks in Chemistry** - A system of computer-based tests designed to enable undergraduates to determine whether they have mastered specific principles in chemistry. The tests focus on core areas of chemistry.

Details of all the Cutter Bequest projects can be found at www.rsc.org/Education/HElecturers/Resources/cutterbequest.asp

► Lecturers' information

The RSC website hosts a range of information aimed at Higher Education lecturers, including details of conferences and events, advice on continuing professional development, awards and funding, Higher Education policy and resources to use with students. www.rsc.org/helecturers

Heads of Chemistry UK (HCUK)

HCUK is an independent body, supported by the RSC, which represents the interests of UK Higher Education Institutions engaged in chemical education and research. HCUK meets twice a year to discuss Higher Education chemical science and share good practice. Membership is open to one senior member of the chemistry community at each UK university. www.rsc.org/hcuk

► Higher Education students' information and activities

A whole section of the RSC website is dedicated to students studying the chemical sciences. It includes information on careers, personal development, how to get industrial experience, member benefits (including discounts and promotions), networking, conferences, events, awards and funding. www.rsc.org/hestudents

Industry tours for postgraduates

These residential tours of industrial companies aim to give postgraduate students an insight into what it is like to work in industry – an opportunity many do not get during their studies. Each year the RSC organises two tours in the UK and a European tour, held in conjunction with the German Chemical Society, Gesellschaft Deutscher Chemiker (GDCh), during which students visit sites in both Germany and the UK. www.rsc.org/industrytours

Database of industrial work placements

The RSC holds an online database of industrial placements for Higher Education students which RSC members can access. These include year long placements, suitable for those studying degrees that include a year in industry, and summer work experience opportunities. Companies can contact the RSC to get details of their schemes added to the database. www.rsc.org/industrialplacements

Student Chemical Society (SCS) Network

The SCS Network supports student chemical societies and aims to enhance communication and interaction between Student Chemical Societies, Younger Members, Local Sections, RSC Representatives and the RSC. www.rsc.org/studentnetwork

Younger Members' Network

The Younger Members' Network provides opportunities for RSC members to get involved in a variety of activities and events, meet other young members and make useful contacts in their area, helping them to further their personal and professional development.

www.rsc.org/youngermembers

Undergraduate Skills Record (USR)

The USR is a framework for undergraduate chemical science students to keep a record of their skills. Users reflect, assess, and plan for their future skills development. It is available online or in booklet form from university departments and the RSC Education Department.

www.rsc.org/usr

Postgraduate Skills Record (PSR)

The PSR is a framework for postgraduate students of the chemical sciences to record, assess and identify skills that require development during their PhD programme. It is available online or in booklet form from university departments and the RSC Education Department.

www.rsc.org/psr

► **Careers publications**

Got a degree? What next...

A valuable careers guide for students of the chemical sciences. This booklet includes advice on job-hunting, CV writing and interview preparation, outlines further study opportunities available at the end of a first degree, and details the benefits of RSC membership and how to become a Chartered Chemist (CChem). Free copies are available to RSC members. www.rsc.org/hestudentcareers

Employee profiles

A series of profiles offering an insight into the life of chemical scientists working in a wide range of careers, highlighting the diverse opportunities open to those with a chemical science qualification.

www.rsc.org/profiles

Chemistry: more than white coats

A presentation pack aimed at anyone delivering presentations on careers and chemistry to young people. It comprises a CD ROM containing three presentations and a suggested script which can be tailored to the age, ability and expectation of the audience.

www.rsc.org/careersadvisers

► **Chemistry for our Future**

Chemistry for our Future (CFOF) is an RSC-led programme involving stakeholders from across the chemistry community. It aims to ensure a strong and sustainable Higher Education chemical science base in the UK. The project has been awarded £3.6M from the Higher Education Funding Council for England (HEFCE) for a two year pilot running from September 2006 – August 2008. www.rsc.org/cfof

► **Chemistry: The Next Generation**

This outreach project showcases the excitement of chemical science and the advantages of going to university. It targets school students

who may not otherwise consider a degree course and brings together expertise from university and industry to give students the chance to experience hands-on chemistry. The project is an integral part of Chemistry for our Future, and is operational in six English regions – Yorkshire and Humber, North East, North West, London, South East and East Midlands. www.rsc.org/ctng

► **Future Blogs**

An innovative e-mentoring scheme which helps guide secondary school students through their educational and career choices. Developed with the Brightside Trust, this scheme allows mentors and mentees to keep in touch through a web based service, removing the constraints associated with **traditional** face-to-face mentoring, and the need to travel. *Future Blogs* is part of the *Chemistry for our Future* programme. www.rsc.org/futureblogs

► **Careers Service**

The RSC offers free, confidential and unbiased support to members at all stages of their career. We can provide information, advice and guidance on all aspects of career planning and the job seeking process. We also provide advice on specific situations, including career breaks, redundancy, retirement and consultancy. The RSC also runs a mentoring scheme through which members can receive or offer help to other members. www.rsc.org/careers

► **Continuing Professional Development (CPD)**

The RSC recognises the need for members to keep up to date with the latest developments in the chemical sciences. Changes in the world of work mean that maintaining and developing knowledge and professional skills is essential, ensuring competence throughout career progression.

CPD has been defined by the RSC as: *'... the responsibility of individuals for the systematic maintenance, improvement and broadening of knowledge and skills to ensure continuing competence as a professional throughout their career'*.

CPD Framework

The RSC's CPD framework is available to RSC members. It provides a comprehensive structure for identifying and planning skills development for chemical scientists. All RSC members are encouraged to complete it.

More information on CPD, including the framework, can be found at www.rsc.org/cpd.

► **Recognition and Accreditation**

The Recognition and Accreditation of degree courses

The RSC has established criteria for admission to categories of membership and for the award of Chartered Chemist (CChem). Degrees in chemistry and other chemical sciences may be approved by the RSC at one of two levels; they can be accredited or recognised.

Accreditation

The RSC accredits chemistry courses which are of a high standard in terms of intellectual challenge and content. The accreditation process requires universities to formally submit details of their courses for review. Graduates who are awarded an RSC accredited degree are

automatically eligible to apply for chartered status once they have gained several years of chemistry related work experience.

Recognition

The RSC recognises a wide range of degrees based on chemical science as satisfying the academic requirements for graduates to become Associate Members of the RSC (AMRSC). UK honours degrees that contain more than 50% chemistry satisfy the recognition criteria for AMRSC. Recognition does not require a formal submission by universities.

A booklet containing details of RSC accredited courses is published annually. An updated list is available online.

www.rsc.org/accredit

The recognition and accreditation of training courses

CPD course recognition scheme

The RSC recognises CPD courses from external course providers, which are relevant to RSC members. Courses do not have to be specifically chemical in content, but must be aimed at the professional chemist. Courses recognised by the RSC are entitled to use the following words on any course documentation or publicity relating to the course: "Recognised by the Royal Society of Chemistry for purposes of Continuing Professional Development". www.rsc.org/cpdrecognition

Accreditation of company training

The RSC offers accreditation of company training schemes deemed to be of a high professional standard. The structure of these schemes offers employees a 'fast-track' route through membership (allowing graduates to achieve the Member category in two years instead of three) and consequently move more rapidly towards the award of CChem.

www.rsc.org/trainingschemes.

► Specialist registers

The RSC's indicative registers provide a list of those RSC members who, after close scrutiny, are certified as providing a high standard of practice in a specific and specialist area.

- **Register of Analytical Chemists** - A register of competent analytical chemists who have demonstrated a broad general knowledge and experience in relation to their specialist field.
 - **Register of Qualified Persons** - The Qualified Person (QP) is responsible for ensuring that the manufacture of medicines for both human and veterinary purposes is properly controlled and bears the final duty of releasing every batch to the market place. The assessment process for QP eligibility is carried out jointly by the RSC, the Institute of Biology and the Royal Pharmaceutical Society of Great Britain.
 - **Specialists in Land Condition register** - The RSC is involved in the registration of Specialists in Land Condition (SiLC). SiLCs are eligible to complete a Land Condition Record (LCR) which details the management and scale of contaminated land.
 - **Directory of Consulting Practices** - This directory contains details of consultants, consulting practices and organisations with expertise extending from the borderlands of chemistry, physics, engineering and computing to those with the biological sciences, medicine, metallurgy and agriculture.
 - **Road Traffic Acts Analysts** - A list of analytical chemists able to undertake the analysis of blood and urine specimens in order to determine alcohol content in relation to the Road Traffic Acts.
- All specialist registers can be viewed at www.rsc.org/registers.

► Professional Practice Qualifications

Mastership in Chemical Analysis (MChemA)

The RSC provides a professional qualification for Public Analysts. The Mastership in Chemical Analysis (MChemA) is the statutory qualification required for the appointment of Public Analysts.

www.rsc.org/mchema

National/Scottish Vocational Qualifications (NVQs/SVQs)

The RSC has developed national occupational standards for a Level 5 NVQ/SVQ in analytical chemistry. The RSC is the assessment centre for this qualification. www.rsc.org/nvqsvq

► Training

The RSC organises a range of training events to help chemical scientists develop their skills. These include in-service training activities for teachers, open learning courses, residential chemistry courses and one-day training events. Some of the activities are specifically chemical in content; others focus on developing other useful skills for chemical scientists.

www.rsc.org/training

► Conferences

The RSC runs many conferences, symposia and one-day meetings on every aspect of chemistry. Many are centrally organised by the RSC. Others are organised by individual Interest Groups or jointly with other organisations such as the Institute of Physics, the Society of Chemical Industry and GDCh.

www.rsc.org/conferences

► Consultation

The RSC is regularly consulted on issues relating to chemical science and education policy by bodies such as the Department for Innovation, Universities and Skills (DIUS), the Office of Science and Technology, the Research Councils, the Funding Councils and the Quality Assurance Agency. We also regularly respond to consultation documents on science education at all levels. www.rsc.org/policy

► Publishing

The RSC is one of the world's leading scientific publishers, offering an exceptional range of peer-reviewed journals (in print and online), magazines, books, databases and publishing services to the chemical science community.

www.rsc.org/publishing

► Library and Information Centre (LIC)

The RSC's LIC is a primary source of chemical information support for RSC members. It holds a collection of over 2,000 journals and 25,000 books and manages a collection of premium online journals, databases and CD ROMs. The LIC also offers a Remote Access Virtual Library, which contains a wide range of electronic information, and a chemical enquiries helpdesk www.rsc.org/library www.rsc.org/virtuallibrary

► Membership of the RSC

There are four categories of membership: Fellow (FRSC), Member (MRSC), Associate Member (AMRSC) and Affiliate. The RSC also awards Chartered Chemist (CChem) and has a licence from The Science Council to register Chartered Scientists (CSci). As a member of the European Chemist Registration Board, the RSC administers admissions from members for the European Chemist (EurChem) designation.

Affiliate

Available for those not qualified, or not yet qualified for any other category of membership. Generally, Affiliates are either undergraduate students or those with a general interest in the chemical sciences.

Associate Member (AMRSC)

Open to those who can demonstrate a recognised level of attainment in chemical science by means of formal education and/or training. Primarily intended as a category for new graduates in the chemical sciences.

Member (MRSC)

The main category of membership denoting the educational and/or vocational achievement that is required for AMRSC, followed by the development, through professional experience, of key skills at an appropriate level over at least three years.

Fellow (FRSC)

This is the most senior category of membership. It is open to those with substantial career progression, seniority and maturity of experience in the chemical sciences.

Chartered Chemist (CChem)

The Chartered Chemist designation recognises an experienced practising chemist who demonstrates an in-depth knowledge of chemistry, significant personal achievements based on chemistry, professionalism in the workplace and a commitment to maintaining chemical expertise through continuing professional development. All Chartered Chemists must be either MRSC or FRSC with education or training based on the chemical sciences.

Chartered Scientist (CSci)

The Chartered Scientist qualification (CSci) reflects best practice in science and is set at a benchmark level throughout the science professions.

European Chemist (EurChem)

The EurChem designation has been developed by the European Communities Chemistry Council. It is open to members of participating national chemical societies who can demonstrate a prescribed level of academic attainment in chemistry and extensive postgraduate professional experience. RSC members seeking to become EurChem must already be Chartered Chemists.

For details on all of these, visit www.rsc.org/join

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