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## Analytical Matters

### *e-Newsletter of the Analytical Division (AD) of the Royal Society of Chemistry, December 2015*

#### Welcome!

Welcome to the second issue of *Analytical Matters*, which will continue to feature items from relevant analytical interest groups, AD regions, the Analytical Methods Committee, other groups and individual members as well as AD Council as appropriate. We will showcase the wide range of analytical science activities being run across the Royal Society of Chemistry by the various analytical member groups as well as linking with parts of the UK analytical community beyond our membership. Please send your feedback and any content for the next issue by the end of January by emailing the Editor [here](#).

With my very best wishes,

Melissa Hanna-Brown FRSC  
President of the Analytical Division

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#### Awards - nominations welcome!

The 2016 round of Prizes and Awards is now open for nominations – your chance to recognise and celebrate scientists you know for their exceptional achievements across academia, education or industry. All nominations must be received by 15 January 2016. Please contact the [Awards Team](#) with any queries.

The following analytical awards are available for nominations this year...

- [Robert Boyle Prize for Analytical Science](#)
- [Anne Bennett Award for Distinguished Service](#)
- [Ronald Belcher Award](#)
- [Joseph Black Award](#)
- [Industrial Analytical Science Award](#)
- [Theophilus Redwood Award](#)

*NB: Please note that the members of RSC Awards Committees are not eligible to nominate, provide referees for or be nominated for prizes and awards which their committee will judge.*

## AD Strategy – an overview

The AD aims to promote and support analytical chemistry at all levels from public outreach and school education to the most innovative and cutting edge research in academia and industry. The [AD Strategy](#) focusses on 5 strategic priorities for the period 2013 – 2017. Each priority is being taken forward by a member of AD Council with the involvement of other members of the Division. This issue of Analytical Matters contains an item from the Education and Skills part of our Strategy (please see John Dean's item further below). There's lots more information about the AD Strategy, including updates on the work of the five groups, via the webpage [here](#).

## AD Strategy update - Education and Skills

*Education and Skills* is one of the five strategic priorities within the [AD Strategy](#). In this area we seek to influence all relevant stakeholders on the importance and value of analytical chemistry. This we seek to do by contributing and collaborating to support the inclusion of analytical chemistry throughout the various stages of an individual's learning development whether that be in the compulsory education arena, vocational training, further and higher education, the workplace or in retirement. Our current areas of activity are shown on our [webpage](#).

However, we are looking to expand our small working group and would welcome people with a passion for promoting analytical chemistry in any form of compulsory or non-compulsory learning who seek to inspire the current (and future) generation of analytical chemists. If this appeals to you then please [contact me via email](#).

With best wishes for the present and future of analytical chemistry,

John R. Dean  
RSC AD Strategic Lead on Education and Skills

## National Schools' Analyst Competition 2015

The final of the National Schools' Analyst Competition was held on the 22/23 June 2015 at Robert Gordon University (RGU) in Aberdeen.

For this year's final, Dr Graeme Kay and Professor Andrew Morrisson from RGU, devised a programme of experiments around a pharmaceutical theme. The teams had to carry out an EDTA titration, UV/visible spectroscopy, infra-red spectroscopy and high performance liquid chromatography.

The winning team of year 12 students came from Ruthin School (North West AD Region). The runners-up were the team from Blundell's School (Western AD Region) while third place went to the Catholic High School from Chester (North West AD Region).



*(L-R) front: The winning team of Xiao Ma, Caitlin Pierce and Elin Wynne accompanied by their Teacher (Sue Frencham); Rear: Prof. Andrew Morrisson (RGU), Prof. John R. Dean (RSC AD Council) and Dr Graeme Kay (RGU)*

Finally, heats of the competition start again in early 2016 through each of the AD Regions and will culminate in the final which will be held at Keele University on the 20/21 June 2016.

For more information about the Schools' Analyst Competition please see the [website](#).

John R. Dean  
RSC AD Strategic Lead on Education and Skills

## EPSRC Review of Analytical Science

As many of you will know the EPSRC held a review of this research area, which has a current portfolio of over £50M, in order to ascertain its health, how it enables other research areas, what these areas are, how it meets the needs of the UK research community and what strengths and weaknesses it has.

A panel was convened earlier this year chaired by Professor Alison Rodger (Warwick) and including Alan Handley (AD Past President) as both an industrial and RSC AD representative. The panel considered many strands of input including a questionnaire sent out to the UK analytical community. The report was published in July this year and was followed up by a further questionnaire to the community asking for feedback on the report's findings.

The feedback to the report was overwhelmingly positive and the EPSRC is now planning how to respond based on this feedback. A focus group met on 30th October (which again

included Alan and was chaired by AD Council member Duncan Graham) to help us with this process as the outputs are likely to affect the whole community. It is hoped to publish this response in the New Year. The EPSRC would like to thank the RSC and the Analytical Division in particular for its help, advice and continued input into this process.

The report can be found [here](#).

For those in a hurry please go to Section 6 on page 19 for the concluding remarks

Martin Sweet, EPSRC Portfolio Manager, Physical Sciences

*N.B: Both the RSC AD Council and the trustees of the ACTF submitted significant comments on the first report. When the final report is published we will summarise the outcomes in this newsletter.*

## Technology Touching Life consultation

The BBSRC (along with representatives from the EPSRC and NERC) attended the AD Council meeting on 30th September to learn more about current AD activities and share information on their own strategies. Among other matters, Peter Burlinson from the BBSRC provided a brief update on the *Technology Touching Life* consultation in the context of a potential future cross-Research Council program to foster interdisciplinary technology development for the life sciences. A summary of this recent consultation on this theme can be viewed [here](#).

*N.B: The RSC submitted a detailed response to this consultation and many of our key recommendations were included in the final summary published online.*

## News from Analytical Interest Groups

### Joint Pharmaceutical Analysis Group

The Joint Pharmaceutical Analysis Group (JPAG) is one of the RSC's many analytical interest groups, but is also joint with the Royal Pharmaceutical Society. The aim of JPAG is to encourage, assist and extend the knowledge and study of pharmaceutical analysis and quality control by the holding of scientific meetings, promotion of lectures, practical demonstrations and discussions.

JPAG has close contact with industry, academia, the NHS and regulatory and enforcement sectors, which enables it to be the primary focus in the UK for the presentation and discussion of matters of importance to everyone with an interest in any aspect of pharmaceutical analysis.

JPAG organises at least five meetings a year addressing all aspects of pharmaceutical analysis and many related facets of medicines control and registration.

Every year JPAG awards the [Geoffrey Phillips Analytical Science Award](#) to a young researcher following shortlisted presentations at the UKPharmSci conference. The winner receives a bursary of up to £1000 to attend a conference of their choice on a relevant topic within a year of the award. Also by offering postgrad student bursaries, covering the registration fee and reasonable travelling expenses, JPAG gives younger analysts the opportunity to attend JPAG symposia and network with colleagues.

Some forthcoming JPAG conferences are...

### **“Solving problems with spectral imaging”**

Thursday 4 February 2016 at the Royal Society of Chemistry, London

### **“The use of in silico modelling in drug development”**

Thursday 17 March 2016, Royal Society of Chemistry, London

More details are available from the [JPAG website](#)

## Separation Science Group

The Separation Science Group are pleased to announce that the next and fifth recipient of the Knox Medal will be Professor Keith Bartle. The Knox Medal honours individuals deserving special recognition for their innovative or influential work in the field of separation science. The medal was first awarded in 2010.

Keith Bartle is Emeritus Professor of Physical Chemistry and Visiting Professor in the Energy & Resources Research Institute of the University of Leeds and will receive his medal at HTC14 in Ghent, Belgium 27-29 January 2016.

More information about the Separation Science Group is available via the [website](#).

## News from the AD Regions

### North West AD Region

The North West Region of the Analytical Division (NW-AD) aims to promote analytical science and communication between our members by arranging events for school children, students, practising and retired chemists across an area stretching from the Scottish Border to Mid-Wales. We also provide travel grants for schools to visit university analytical departments and for post-graduate students to attend analytical conferences, sponsor relevant meetings (e.g. EAP) held in the region, and support summer studentships with the British Mass Spectrometry Society. For more detailed information on NW-AD please visit our websites on [RSC.org](#) and [www.nwad.org](#).

NW-AD is actively promoting Streamwatch with the help of undergraduate students from Manchester Metropolitan University. The students visit local primary schools with Streamwatch kits which enable the youngsters to carry out simple measurements (pH, turbidity, dissolved oxygen, nitrate etc.) on water samples from ponds and streams near to their schools. Recently NW-AD has started working in partnership with the Catalyst Science Discovery Centre at Widnes to incorporate Streamwatch into their Saturday Science Club activities.

In common with other RSC groups, NW-AD nowadays holds fewer scientific meetings than in the past, but our biennial meeting with the Chromatographic Society on Advances in Gas Chromatography is always highly successful and regularly attracts 120-130 delegates. This event has now become established as the leading UK chromatography meeting and this year was held at the Heath Business Park in Runcorn on 14th October.



In June NW-AD welcomed 62 long service members and guests to their Long Service Members Lunch held at Vicars Cross Golf Club near Chester. This was the thirtieth consecutive year of this popular event that enables members to renew acquaintances, make new contacts, catch-up on news and share reminiscences from their careers in analytical chemistry while enjoying a delicious three course meal held in pleasant surroundings.

### Scottish AD Region

This year's industrial visit was to Hunterston A Nuclear Power Station in North Ayrshire on Tuesday 2nd June 2015. This site is in the process of being decommissioned and so this allowed access to areas that would have been more restricted if the plant was still producing power.

Mr Eddy T Burns, Senior Analytical Chemist from Magnox, the company that runs the decommissioning, kindly facilitated this visit and arranged for the RSC group to be guided through various areas of the site. Their hospitality was exemplary.

The visit was attended by 10 RSC members, and all thoroughly enjoyed the experience. The visit began with a video/PowerPoint presentation and welcome by Mr Burns and the Director of the site. This presentation gave the background and history of the Hunterston A plant. Also it was highlighted that the role of analytical chemistry was key in treating waste materials and in particular the reduction in the water volume of waste.

When the group was being shown around the plant, safety considerations were of paramount importance and each person wore personal safety equipment and we were even "scanned" before and after entry to the plant for radioactivity contamination (no-one failed these scans). A particularly fascinating part of the plant was the huge expanse under where the main reactor used to be (now emptied of fuel). This plant was the only one where the fuel was delivered to the reactor from below. The scale of this operation is quite incredible and it was clear that the engineering/build characteristics of the structure were very robust and had a 1950's look.



Again, many thanks are extended to Mr Burns and the team in Hunterston A, in appreciation of their work in organising and directing the visitors around the site.

For more information about the Scottish AD region please view the webpage [here](#).

**Dr John MacLachlan**

## Analytical Chemistry Trust Fund



The Analytical Chemistry Trust Fund (ACTF) is a registered independent charity established in 1974. It is closely associated with the Analytical Division (AD) of the Royal Society of Chemistry (RSC). In fact, all ACTF Trustees must be elected members of the RSC's AD Council.

The ACTF's object is to promote, assist and extend the science and study of Analytical Chemistry and of all matters relating to the nature and composition of natural and manufactured materials for the benefit of all.

The Trust is the only charitable trust with analytical science at its core. It spends some £450K p.a. on Analytical Science via support for PhD programmes, summer studentships, research fellowships, support for analytical conferences as well as educational initiatives etc. For details please visit the [website](#).

In the last two decades the ACTF has spent over £11M supporting Analytical Science. For 13 years the EPSRC and ACTF jointly funded a successful PhD studentship scheme. Some 60 students received ACTF funding out of a total of 147 postgraduates. Also jointly funded with EPSRC were 3 Analytical Science Professorships at UK universities. Recently ACTF

has also partially funded 28 PhD studentships in collaboration with the NERC.

## Analytical Research Forum 2016 (ARF16)

The 2016 Analytical Research Forum (ARF16) will take place on **Friday 8th July in London**. This annual event, held in the elegant surroundings of our offices in Burlington House, Piccadilly, aims to promote the work of early career scientists through oral, flash poster and regular poster presentations and networking opportunities.

The ARF also features a range of invited speakers representative of the range of analytical chemistry applications in the UK and overseas. Full details including financial support for attendees is available via the [website](#).

## Emerging Analytical Professionals (EAP) Annual Weekend Event 2016

The 2016 EAP conference is on the theme of **Analytical Alchemy: Tablets, Toxins and Tonics - Detecting the good, the bad and the ugly** will take place on Friday 13th May - Sunday 15th May in Solent Hotel & Spa, Fareham.

All enquiries please to Conference Chair: [Grace Lewis](#). Some bursaries may also be available.

Fancy Dress theme for the Saturday evening event will be T themed (In line with the title - also it's 50 years of Star Trek so people can be Trekkies too!!)

## Forthcoming Analytical Events

A listing of other forthcoming analytical events can be viewed [here](#).



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