

ANALYTICAL MATTERS



ISSUE 8 – SUMMER EDITION 2018

UPCOMING EVENTS

A selection of analytical events coming up in the next few months

Sensors 2018

27th June 2018, London
[more information](#)

BNASS

2nd – 4th July 2018, London
[more information](#)

Hands on Complete HPLC and LC-MS

27th July 2018, Milton Keynes
[more information](#)

Bright Sparks Symposium

3rd September 2018, Manchester
[more information](#)

Electrochem 2018

16th – 18th September, Lancaster
[more information](#)

Welcome to the eighth issue of Analytical Matters which aims to showcase the wide range of analytical science activities being run across the Royal Society of Chemistry Analytical Division 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 August 31st by emailing the Editor [here](#).

With my very best wishes,

Duncan Graham FRSC

President, RSC Analytical Division



EVENTS

Call for abstracts: Bright Sparks Symposium 2018

The Analytical Science Network will be holding the next “Bright Spark Symposium” on Monday 3rd September 2018 at the University of Manchester. The event is designed to provide a relaxed environment for early career analytical scientists to present their work, either in talk or poster formats. The event is

FREE to attend and spaces are expected to fill quickly so please book as soon as possible to avoid

disappointment.

Don't miss out book your

place at:



www.analyticalsciencenetwork.co.uk

For enquiries please email: info@analyticalsciencenetwork.co.uk



Analytical Science Network
Supporting early career analysts

Analytical Science Network presents

Monday 3rd September 2018

9.30am - 4.30pm

Manchester Institute of Biotechnology

BRIGHT SPARK SYMPOSIUM

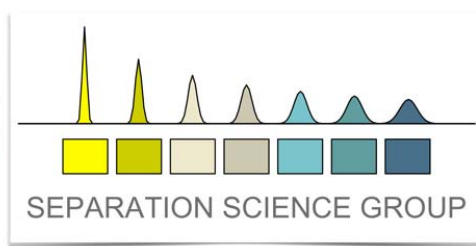
This FREE event is an opportunity for early career analytical scientists both in industry and academia to present their work.

All aspects of analytical science welcome!

Knox Medal Symposium with Prof Jim Jorgenson – 29 June 2018

The [Knox Medal](#) is awarded by the RSC Separation Science group to individuals deserving special recognition for their innovative and influential work in the field of separation science. It was first awarded in 2010, and this year at HTC-15, we were delighted to announce that the **2018 Knox Medal will be presented to Prof James Jorgenson** for his many achievements over the course of a highly successful career as an innovator and separation scientist, with a particular acknowledgement of his seminal contributions to the development of ultrahigh pressure liquid chromatography (UHPLC) and capillary electrophoresis (CE).

The RSC SSG will be presenting the award to Prof Jorgenson at a special one-day symposium in honour of his work on the 29th of June 2018 at Burlington House. The symposium features eight talks on the history, current state-of-the-art and future directions of separation science, by world-leading experts from academia and industry. As described in the preliminary [agenda](#), the talks will emphasize the extensive impact of Prof Jorgenson's research and his role in developing advanced LC instrumentation, which has had far-reaching consequences for the practice of separation science. Full registration details can be found [here](#); as usual, special registration rates apply for members of the RSC and student attendees.



Submitted by Dr Arun Sen

Sensors 2018 - Innovative Chemical Sensing

Wednesday 27th June 2018 at the Royal Society of Chemistry, Burlington House, Piccadilly, London



This conference on "Innovative Chemical Sensing" organised by the Analytical Management and Automation Group concerns innovations in monitoring and analysis using sensor technologies. The conference will examine the innovations in the design and application of materials and development of sensors and technologies for monitoring medical, biological, environmental and other related processes.

The conference will be supplemented with poster presentations and exhibition.

Abstracts for posters can be submitted until Friday 22nd June 2018. Register [here](#).

AWARDS AND RECOGNITION

RSC Prizes and awards 2018

Rewarding excellence, gaining recognition

We are proud to highlight the 2018 analytical science winners of our prizes and awards, celebrating the outstanding work happening in every corner of the scientific community.

2018 Robert Boyle Prize for Analytical Science Winner

Professor Richard Compton
University of Oxford

Awarded for innovative advances in the analytical detection of nano-entities, seminal contributions to the calibration free measurement of pH and the development of sensors for food technology and medicine.



2018 Industrial Analytical Science Award Winner

Dr Paul Brewer
National Physical Laboratory

Awarded for excellence in the development of highly accurate and traceable analytical methods for the measurement of water vapour transmission rate.



2018 Ronald Belcher Award Winner

Ms Kamonwad Ngamchuea

University of Oxford



Awarded in recognition of the quality of research in analytical chemistry and in particular for work on human saliva and quantification of glutathione as a biomarker.

2018 Theophilus Redwood Award Winner

Professor Christy Haynes

University of Minnesota, Department of Chemistry



Awarded for interdisciplinary work at the interface of analytical, biological, and materials chemistry and skills for passionately and effectively communicating science to broad audiences.

2018 Anne Bennett Memorial Award for Distinguished Service Winner

Professor Duncan Thorburn Burns

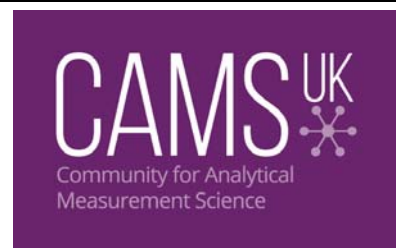
The Queen's University of Belfast



Awarded in recognition of prolonged and dedicated service to the Analytical Division through Council, regions and representation on a variety of additional committees.

CAMS-UK UPDATE

Since our last update on CAMS-UK, we have been very busy engaging with the Analytical Measurement Science community and have had some great progress with this exciting project. Below are some key highlights:



1. We held our first industry steering board launch event on 3rd May in London (RSC, Burlington House) with 24 attendees from companies across multiple sectors. During the morning part of the meeting we overviewed the progress with CAMS-UK, the plans for academic and research post calls, the progress with training and skills e-platform and reviewed the new tiered memberships benefits structure. After a networking lunch, we had an interactive workshop gathering feedback from industrial delegates on research challenges and skills and training priorities.
2. We have worked with the Analytical Chemistry Trust Fund to prepare adverts for short term CAMS-UK postdoctoral fellowships and we are now preparing a call for 50% funded CAMS-UK analytical measurement science academic (lecturer) and research fellow positions so we can bring more academic institutions into CAMS-UK (these will be advertised shortly).
3. Disappointingly, the review panel read-out for the EPSRC CDT expression of interest stage only approved one analytical measurement science bid from those submitted to progress to the next stage. For us, this reinforces the need for CAMS-UK more than ever if we are ever going to achieve success in the vision to secure the UK's future capabilities and capacity in quality measurement science training, research and innovation. We have offered support to the one remaining analytical EPSRC CDT bid and will hope to see it funded. Meanwhile, we are continuing to work with the current Tier 1 CAMS-UK founding partner Universities (Strathclyde, Manchester, UCL) to support a pool of PhD student and postdoctoral research fellows via CAMS-UK industry memberships and will look to leverage alternative funding sources to support their commitment. We remain open and welcoming to additional academic groups from other institutions to join as Tier 1 members or via the ACTF competitive funding source as Tier 2 or 3 members.
4. We were delighted with the recent news about the newly appointed Government Chemist Julian Braybrook. Julian takes over from Derek Craston in this post and we gratefully recognise how both Derek and Julian have championed and supported CAMS-UK since its conception. Julian is supporting a meeting for numerous UK stakeholders on June 15th to request additional support for CAMS-UK (we will come back to you with the output from that meeting).
5. We are preparing initial online webinar programmes for CAMS-UK industry members and will start to roll-out programmes in the coming weeks. Membership for the remainder of 2018 is free as we start to launch community training and skills programmes- we are welcoming new members to join us via our website at <https://cams-uk.co.uk/>

6. We have welcomed Dr. Zoe Ayres in our team, Zoe joins us as a member of the AD council (and works full time for Hach Company) and will be supporting CAMS-UK twitter and website communications.

If you have any suggestions for this Community project and/or would like to offer support – we look forward to hearing from you. Contact details are available on the [CAMS-UK website](#).

ANALYTICAL DIVISION CALL – GET INVOLVED!

Raising the profile of analytical science through national public outreach

It is of great importance to tackle the challenge of raising the profile of analytical science to the general public, within schools, higher education and in universities.

The impact and importance of analytical science is immense and is exposed to the public more than they ever realise as the examples are not always linked back to the innovative science the analytical community deliver.



Be it drugs in sport, the *i*-knife, the smell of Parkinson's disease, planetary landers and no doubt the forensic investigation recent events in Salisbury, analytical science is high profile, regularly in the news, engaging and inspirational.

Therefore, AD Council has a clear desire to enhance the profile and also enable members of the UK and global analytical community to get involved and be the advocates of analytical science.

AD Council is in the process of developing a package of materials that can be used in outreach activities to demonstrate the impact, innovation and importance of analytical science.

The material will be coordinated by RSC AD Council and will be made available to the broader analytical science community to encourage and support individual outreach activities.

Therefore, as AD Council can provide the materials what do we need from you?

We would like you all to get out there to your local schools, public outreach events such as sci-bars, Pint of Science events and science fairs and deliver this engaging, inspiring and fun material.

Let's inspire the next generation of analytical scientists and inform the public on what we do!

If you would like further information or even better, want to get involved, please contact [Tony Bristow](#) (Anthony.Bristow@astrazeneca.com).

EVENTS

Schools' Analyst Competition 2018

This year's Final of the Schools' Analyst Competition was held at Bangor University on the 20-21 June 2018. While a full report will appear in the next issue here are a few facts about the competition in 2018.

2018 has been a record year for the 29th running of the Schools' Analyst Competition.

- We have seen the highest number of schools/colleges participate with 344 going to one of the 9 Analytical Division Regions heats held in England, Scotland, Wales, Northern Ireland and the Republic of Ireland.
- For the first time, the 1000 participants barrier has been broken, with a record number of 1032 participants.
- We also had the largest final to be held to date with 26 Schools / Colleges attending.

All competing for the Prize money of £3000 for the overall winners, £2000 for the runners up and £1000 for 3rd place, as well as individual prizes.

*John R Dean
National Coordinator Schools' Analyst Competition*

Launch of SWIG early career scientific poster competition 2018:

£1,200 first prize
£500 second prize
£200 third prize



SWIG invites students and employees in the field of water sensor research to design a poster summarising their work. This is an opportunity for researchers within the water and environmental sectors to showcase their scientific talents and innovative thinking.

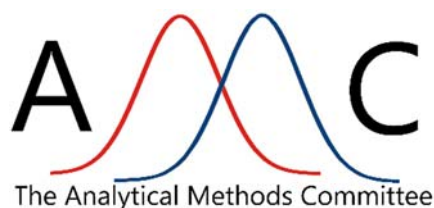
The SWIG Early Career Researcher Prize is intended to raise awareness of technological development and novel applications related to water measurements and thereby promote innovation in sensor research and commercial application. The competition is open to all 'early career researchers' to include undergraduate and postgraduate students either in full time education or within the first 4 years of employment within their area of expertise.

For full details of the competition, including terms and conditions, please see the attached flyer or the SWIG [website](#). To submit an abstract and a poster, please use the [web portal](#).

Deadline for submissions: Friday 7 September 2018



Register [here](#).



Looking to gain chartered status? The Analytical Methods Committee (AMC) provide Technical Briefs, ideal for supporting continuing professional development.

The Analytical Methods Committee (AMC) is the Committee of the Analytical Division (AD) that handles matters of technical importance to the Analytical Science Community. Made up of expert Sub-Committees and designated representatives, the broad aim of the AMC is to participate in national and international efforts to establish a comprehensive framework for appropriate quality in chemical measurement, often working alongside with numerous accreditation services and governing bodies, such as DEFRA and UKAS.

To do this, we assist in the development and establishment of suitable performance criteria for methods and instruments; advise on the use and development of appropriate statistical methods and are deeply involved in identification and promulgation of best analytical practice, including aspects relating to sampling, instrumentation and materials.

The AMC produces Reports and regular Technical Briefs (TBs) on a wide range of analytical topics, published in the RSC journal *Analytical Methods*. We are also proud to support the overall AD aim of supporting Continuing Professional Development (CPD) with our TBs which can be used towards CPD certification.

Find more information and our Technical briefs at www.rsc.org/AMC
or follow us @RSC_AMC

EMERGING ANALYTICAL PROFESSIONALS 2018

Emerging Analytical Professionals (EAP) 2018, the 23rd annual conference of the Analytical Science Network (ASN) was held in Knutsford from 11th – 13th May. The theme for the weekend was “Circle of Life – analysing the world around us” and gave an opportunity for delegates to present research showcasing a variety of research covering the breadths of the analytical science. Dr Bhavik Patel (University of Brighton) gave a keynote address on “Development to Ageing: the life cycle of chemical signalling intestinal tract”. Over 60 delegates attended the weekend meeting from both industry and academia with representatives from companies such as LGC, AstraZeneca, Waters, AkzoNobel and Eurofins, and students from Universities from across the UK, and beyond!

The programme was packed with a wide range of talks, with a diverse selection of invited speakers, early career ‘Bright Spark’ speakers, as well as back to basics talks on analytical techniques. Additionally, delegates enjoyed Continuing Professional Development sessions given by Dr Dayna Mason and Dr Kat Presland from the RSC as well as Sanjana Balu from Sense about Science. The sessions covered public outreach, advice on achieving chartered status, and included lively discussions about how to disseminate information about scientific research to the general public.

31 delegates presented posters and gave a one-minute pitch to describe their research and thanks to the generosity of the event’s sponsors, several prizes were awarded. The winners of the People’s choice poster pitch prizes sponsored by the *Analytical Methods Committee* were Dr Aya Abdalla (University of Brighton) and Kate Sidwick (Keele University). *The Analytical Scientist* sponsored prizes for posters and talks, with Virginia Harvey (University of Manchester) winning the poster prize and Rachel Hand (University of Warwick), Dr Michael Wilde (University of Leicester) and Colleen Maxwell (Eurofins) winning prizes for outstanding talks. Talks were judged by keynote speaker Dr Bhavik Patel and posters were judged by Dr Jacquin Wilford-Brown of AkzoNobel, one of the invited speakers.



L-R: Rachel Hand, Dr Michael Wilde and Colleen Maxwell are presented with their awards, sponsored by *The Analytical Scientist* by Dr Bhavik Patel

In terms of networking and communication for upcoming analytical chemist, it is the best conference event I've attended in years!

Bhavik Patel, University of Brighton



L-R: Virginia Harvey (*The Analytical Scientist* poster prize) and Dr Aya Abdalla (*Analytical Methods Committee* People's choice poster pitch prize) are presented with their awards by Dr Bhavik Patel

The next Emerging Analytical Professionals Conference will be held on the 10th-12th of May 2019 in Leeds. For more details on the EAP 2019 conference and future ASN events, visit our website or follow us on Facebook, Twitter and LinkedIn. Website: <https://www.analyticalsciencenetwork.co.uk/> Facebook & LinkedIn: Analytical Science Network Twitter: @ASN_RSC

Report by Lizzie Griffin, University of Aberdeen, Analytical Science Network Committee

RSC TRAVEL GRANTS

RSC Travel Grants for PhD Students and Early Career Scientists are designed to support conference travel for PhD student and early career members (including industrialists and technicians). They are highly competitive. Members can apply for up to £800 to travel to anywhere in the world for conferences that may benefit their professional development. In October 2016, the RSC extended the scheme to include early career researchers between 5 and 10 years post-PhD as well as allowing technicians to also apply. Here we summarise travel grants in the last few months that have directly benefited the analytical community:

Position	Affiliation	Conference	Funding granted
PhD student	Loughborough University	The ANZFSS 24th International Symposium	£790.00
Postdoctoral researcher	University of Lagos	11th Network Conference on Persistent Organic Pollutants	£800.00
Postdoctoral researcher	Ohio State University	Spring SciX 2018	£800.00
Postdoctoral researcher	Loughborough University	World Congress on Biosensors 2018	£800.00
Postdoctoral researcher	University of Surrey	66th Conference on Mass Spectrometry and Allied Topics	£800.00
PhD student	University of Surrey and The National Physical Laboratory	66th Conference on Mass Spectrometry and Allied Topics	£800.00

And of the reports received, some selected highlights, showing the benefit of the RSC travel grants:

“The conference enabled [me] to network with many people who I wouldn't have had the chance to meet if it wasn't for the conference. This, as mentioned in part 6, has had a great impact on my research.

- During my Ph.D. I have found that the topics of research that I cover somewhat differ from the general trend, especially in the conferences I have attended in the U.K. Attending PANIC enabled me to meet connections who have worked on similar projects to myself, or have researched into similar materials that I currently use. As such, i was able to discuss ideas and learn from their experiences. - There were also some very interesting talks on the application of NMR. These ranged from qNMR through to NMR in the opioid crisis and even NMR spectrometers on the end of helicopters! I thoroughly enjoyed learning some of the extreme applications of NMR in the various different industries.”

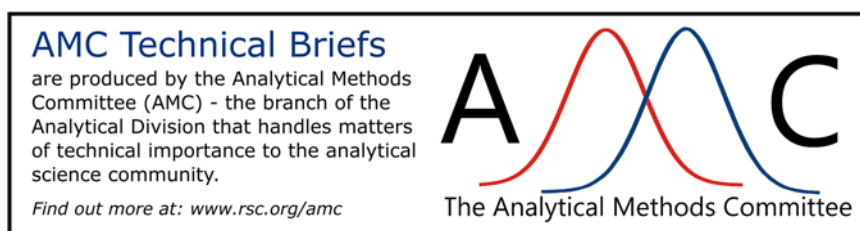
“There were many people who were interested in what I presented. Some of which even provided suggestion, directly and indirectly, which have given me more ideas to add to my research profile. - I have met some interesting connections who have worked or are working in a similar field to me. This has opened the door for possible collaborations and/or potential connections for possible recruitment further on in my career.”

ANNOUNCEMENTS

Analytical Methods Committee Update

New Analytical Methods Committee (AMC) Technical Brief, No. 84, [Beam Sampling: Taking Samples at the micro-scale](#) released.

This technical brief outlines that when using a beam to make a measurement *in situ*, irrespective of scale, the process implicitly includes the taking of a sample. Therefore, the uncertainty of the measurement result needs to include the uncertainty generated by the sampling process, which is usually dominated by the heterogeneity of the analyte at that scale. Reliable estimates of the uncertainty of beam measurements are essential to judge their fitness-for-purpose (FFP) and hence to enable their rigorous interpretation. This approach can be applied to a wide range of techniques for the analytical assessments of materials, from handheld portable X-ray Fluorescence (pXRF) at the millimeter scale, to Secondary Ion Mass Spectrometry (SIMS) at the micron scale.



Analytical Chemistry Trust Fund Update



ACTF, an independent charity (Reg. No. 268893) was established in 1974. It is closely associated with the Analytical Division of the Royal Society of Chemistry. Its primary task is to support analytical science in the UK and abroad. It uses the returns from its capital investments to spend a significant sum supporting PhD programs, summer studentships, research fellowships and support for analytical conferences as well as educational initiatives. For further details please see the Analytical Chemistry Trust Fund [webpage](#).

Following the retirement of David Ferguson at the end of 2017, Ruth Hearn became his replacement as the Administrator of the Analytical Chemistry Trust Fund (ACTF). The ACTF is an independent charity that uses the returns of its investments to support analytical chemistry in the UK and ROI with a number of different projects, including summer studentships, fellowships, conference travel grants and the Schools Analyst Competitions. Recently, the ACTF have agreed to support CAMS-UK, an industrially-led community dedicated to supporting world class analytical measurement science, training, research and innovation.



Dr Ruth Hearn

After a six month transition period, whereby both David and Ruth worked together, Ruth is now fully responsible for the day to day running of the ACTF on behalf of the trustees, including liaising with investment managers, meeting charity commission requirements and organising the funding for the various projects.

After receiving her PhD with Birkbeck University, on the application of magnetic sector ICP-MS, Ruth embarked on an exciting 3-year opportunity with the Australian Government Analytical Laboratory in Sydney. On her return to the UK, she continued her career in metrology and analytical science with the Laboratory of the Government Chemist in Teddington. Ruth now runs her own business focusing on the quality and suitability of analytical measurements by providing technical assessment services to accreditation bodies as well as training and consultancy in ISO 17025, ISO 17034 and other aspects of analytical chemistry and quality management systems.

This information about Royal Society of Chemistry activities, products and services is being sent to you as part of your membership of the Royal Society of Chemistry.

You can [unsubscribe](#) from all future email messages from the Royal Society of Chemistry. You may still receive service emails relating to your Royal Society of Chemistry membership, articles submitted for publication, purchases, or conferences. See our [Privacy Policy](#).

Contact us The Royal Society of Chemistry is a charity registered in England and Wales. Registered Office: Thomas Graham House, Science Park, Cambridge CB4 0WF, United Kingdom. Registered Charity Number: 207890 © Royal Society of Chemistry 2017. All rights reserved.

