

ANALYTICAL MATTERS



ISSUE 9 – AUTUMN EDITION 2018

UPCOMING EVENTS

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

HPLC Method Development

10th October 2018, Manchester
[more information](#)

Chemical contaminants and their assessment: an analytical perspective

6th November 2018, Plymouth
[more information](#)

Pharmaceutical analysis research awards and careers symposium 2018

20th November 2018, London
[more information](#)

Regulatory Hot Topics III

6th December, London
[more information](#)

AVAILABLE RESOURCES

Analytical Methods Committee Technical Briefs

Technical information on a wide range of analytical techniques, found [here](#)

RSC online CPD

[Log](#) your continuing professional development

Welcome to the ninth issue of Analytical Matters, the e-newsletter of the Analytical Division of the Royal Society of Chemistry, 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 November 30th by emailing the Editor [here](#).

With my very best wishes,

Duncan Graham FRSC

President, RSC Analytical Division



CALLS

Call for experts: Road Traffic Analysts

The RSC has produced the [Road Traffic Acts Analysts booklet](#) as a public service for many years. Any motorist who is required by the police to give a specimen of blood or urine for alcohol analysis in suspected drink-driving cases will be given a part of the specimen for their own retention and independent analysis if they choose. The Road Traffic Acts Analysts booklet is included in test kits and given to the motorist when the sample is taken. We are currently seeking appropriately qualified and accredited analysts to include in the booklet. To be included, you must be a full Member or Fellow of the RSC and hold CChem professional status. Preferably, you will be operating a UKAS ISO/IEC17025 procedure for alcohol analysis in blood and urine.

An entry in the booklet is free of charge to appropriately qualified members. If you offer these services in the UK and are suitably qualified and accredited, please email Julie Franklin franklinj@rsc.org to find out more.

WWEM 2018

The 8th International Conference and Exhibition on water,
wastewater and environmental monitoring

21st - 22nd November

Network with Water Industry Experts...

WWEM 2018
will host the:

CoGDEM
gas detection
and hazardous
area

CoGDEM
The Council of Gas Detection and
Environmental Monitoring

**Over 100 FREE workshops, over 140
Exhibitors and a focussed Conference.**

*WWEM is the specialist event for monitoring,
testing and analysis of water, wastewater,
environmental sampling & gas detection.*

Visitors to WWEM will also
have FREE admission to
the AQE Show

wwem.uk.com

Follow us:  @WWEM_Exhibition

Tel: +44 (0)1727 858840 email: info@wwem.uk.com

AQE

21st - 22nd Nov. **2018**
Telford, UK

The Air Quality and
Emissions Show

Supporting Trade Associations



EVENTS

Winton Centre M2D Workshop in Communicating Uncertainty

26 - 27 November 2018, The Olde Bell Hotel, Berkshire, UK



Does your job involve producing or trying to communicate numbers? Are those numbers in the fields of health/medicine, economics/business or climate change? Do you wonder how best to communicate the uncertainty around those numbers?

If so, consider applying for a free place at this workshop to help come up with some answers. On November 26 - 27th 2018, the [Winton Centre for Risk & Evidence Communication](#) at the University of Cambridge, in association with the M2D Network, will be holding a 24 hour workshop bringing modellers and researchers with uncertainties to communicate together with professional communicators and graphic designers from a range of backgrounds, and representatives of the decision-making audiences.

The workshop will be extremely practical, with participants divided into three groups (by field) and working to produce graphical and verbal representations of uncertainty within their fields which will be tested with an online panel overnight. Each group will be about 10 people, with a mixture of people with numbers to communicate, professional communicators, and representatives of the main target audiences.

Overnight accommodation at The Olde Bell hotel in Berkshire and all meals will be provided.

There are places on the course and travel bursaries reserved for early career researchers.

The agriculture water interface: Current topics

1st November 2018, Royal Society of Chemistry, Burlington House, London



This one-day meeting has three distinct themes covering the Industry Perspective, Regulatory Issues and the Monitoring and Fate of Pollutants. This event brings together leading academics, regulators and industry experts to discuss current issues on how water quality and quantity is impacted by agricultural activities.

The meeting will be of interest to those involved in the following sectors:

- Agriculture and land management
- Water industry personnel
- Manufacturers, suppliers and users of plant protection products
- Research organisations
- Academia and early career researchers

- Analytical equipment and service providers
- Water engineers and environmental consultants
- Regulators – EA, NRW, SEPA, NIEA, DWI •
Regulatory affairs and compliance
- Non-Governmental Organisations – Rivers and Wildlife Trusts

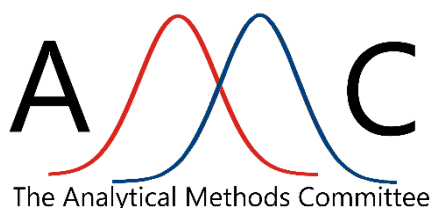
Registration Early bird rates before Friday 5th October 2018:

RSC Member £90; Non-Member £130; RSC Student £55; Student Non-Member £75

Standard rates by Tuesday 23rd October 2018:

RSC Member £110; Non-Member £150; RSC Student £70; Student Non-Member £90

Book your place [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

EVENTS

Emerging Analytical Professionals Conference, 10th - 12th May 2019, Thorpe Park Hotel and Spa, Leeds

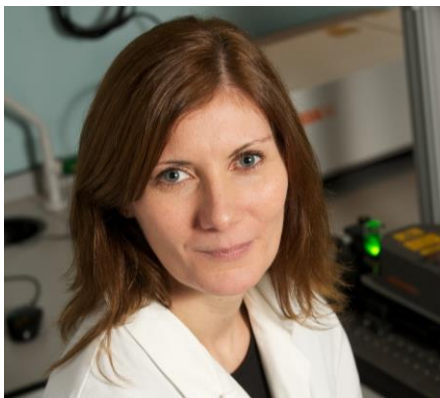
The Analytical Science Network presents:

Elementary: Exploring the analytical sciences

CALL FOR ABSTRACTS - EARLY CAREER SPEAKERS & POSTER PRESENTERS

Building on the success of previous events, the EAP weekend provides networking and Continuing Professional Development (CPD) opportunities for early career analytical scientists across all disciplines, open to both industry and academia. Each year we include general interest talks as well as specialist lectures, CPD and back to basics sessions. Our 2019 theme, '**Elementary: Exploring the analytical sciences**' explores the wide breath of analytical sciences, including topics such as general analytical techniques, Clinical Science, Environmental, Forensic, pharmaceuticals and much more. **This conference aims to facilitate sharing of knowledge and experience between a diverse group of analytical scientists.**

We are excited to announce our 2019 Keynote speakers:



Professor Karen Faulds
University of Strathclyde

"Multiplexed and quantitative bioanalysis using Surface Enhanced Raman Spectroscopy (SERS)"



Dr David Pegg

City & Guilds of London art school, Conservation

"The elements of art: Analytical Chemistry at the National Gallery, London"

We are currently looking for **early career speakers**, from both industry and academia to present 'Bright Sparks' talks (20-minute talk, including questions on analytical topics pertaining to their current research or job role). The 'Bright Spark' category is for early career industry professionals or researchers (including PhD students) who might not have presented to a large audience before. We also encourage delegates to present posters detailing their work or research.

Standard registration fees apply but we do have several bursaries that can be applied for.

Deadlines:

Oral abstract - 31st January 2019
Poster abstract - 31st March 2019

Submit a talk or poster abstract at:
www.analyticalsciencenetwork.co.uk

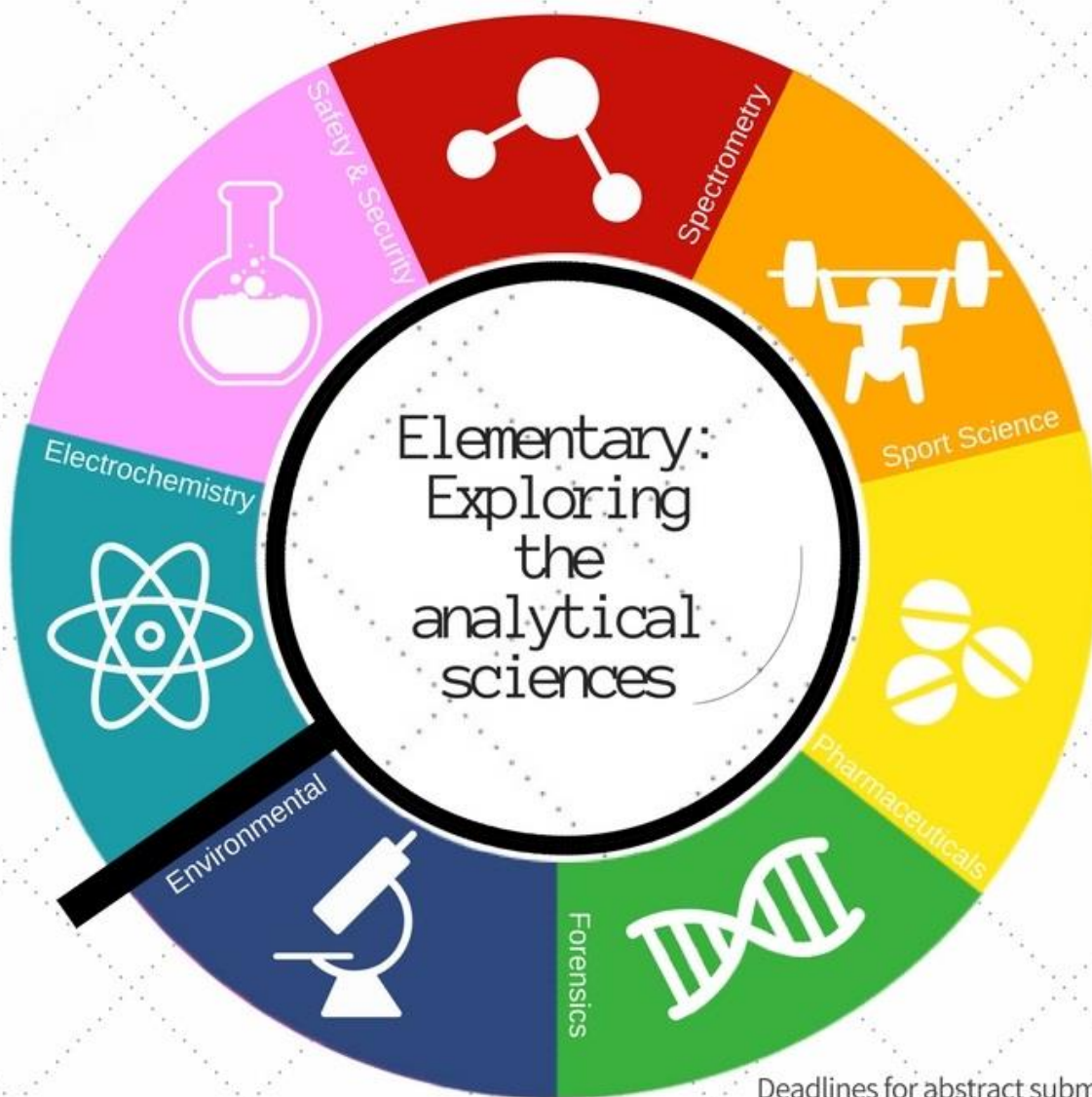
For general enquiries email:
info@analyticalsciencenetwork.co.uk

EMERGING ANALYTICAL PROFESSIONALS 2019

10 - 12th May 2019

Thorpe Park Hotel and Spa, Leeds

An all inclusive weekend conference aimed at early career analytical scientists and researchers in industry and academia



Deadlines for abstract submission:
oral presentations - 31.01.2019
poster presentations - 31.03.2019
Bursaries available

With emphasis on continual professional development activities, back-to-basics technique workshops and general interest presentations, alongside networking opportunities



Analytical Science Network
Supporting early career analysts

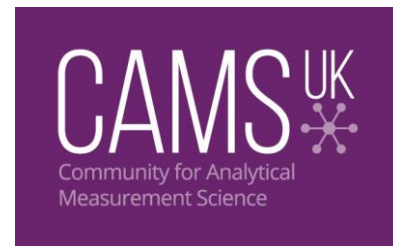
To register visit:
www.analyticalsciencenetwork.co.uk
For enquiries email:
info@analyticalsciencenetwork.co.uk



UPDATES

What is CAMS-UK?

CAMS is an industrially-led, strategically connected community dedicated to supply world class analytical measurement science (AMS) training, research and innovation, which will:



- Facilitate recognition of world-class UK analytical measurement science training
- Facilitate industrially-led research to develop and commercialise novel point-of-use measurement technologies
- Provide a talent pool with industry-ready transferable skills for the future:
- Provide access to world-leading analytical measurement capability and instrumentation
- Support inward investment through overseas measurement community involvement

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](https://cams-uk.co.uk/).

Update on CAMS-UK

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, including securing an additional ~£1M from BEIS taking us to near enough £5m funding in total. Below are some key highlights:

1. The Joint Pharmaceutical Analysis Group (JPAG) have become sponsors of CAMS-UK.
2. Short term CAMS-UK postdoctoral fellowships and 50% funded CAMS-UK analytical measurement science academic (lecturer) and research fellow positions will be advertised shortly in order to help bring more academic institutions into CAMS-UK.
3. We are preparing initial online webinar programmes for CAMS-UK industry members and will start to roll-out programmes in the coming weeks.
4. 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/>

Get involved with CAMS-UK

Join our community at <http://cams-uk.co.uk>

Follow us on Twitter @CAMS_UK

NEWS



Report on the Royal Society of Chemistry Analytical Division's 29th National Schools' Analyst Competition Final 2018

The 29th Final of the National Schools' Analyst Competition was held on the 20 - 21 June 2018 at Bangor University. All attendees were welcomed to the Competition by the head of the School of Chemistry, Professor Mike Beckett, Dr Leigh Jones (Competition organiser) and Professor John R Dean (on behalf of the RSC/AD and ACTF). Bangor University offers a range of successful degree programmes in Chemistry (BSc(H) and MChem) as well as an MSc in Analytical Chemistry and an MRes Chemistry. In addition, the BSc and MChem programmes have the option for an industrial placement, international experience or european experience year. For this year's final, Dr Leigh Jones devised a programme of experiments around an environmental and pollution theme. The teams had to carry out four experiments: extraction of a pollutant from a sand sample and analysis by gas chromatography-mass spectrometry; quantification of iron using colorimetric analysis; quantification of chloride ions in seawater / brackish water (Mohr's Method); and, determination of the specific gravity of brackish water. While the judging was taking place, the teams and accompanying teachers, were entertained by Professor Deri Tomos with a stimulating lecture entitled "The several lives of the biochemist".

The winning team of year 12 students came from Truro College and were Anna Gilchrist, Abi Tamblyn and Alex Moreman, representing the Western Region of the Analytical Division. They were accompanied by Truro College staff Rosie Maguire and Matt Thurlow (Photo 1). The College received a prize of £3000 together with Amazon Vouchers of £75 to each of the three team members. The School was presented with an engraved glass trophy on behalf of the sponsors the Analytical Chemistry Trust Fund.

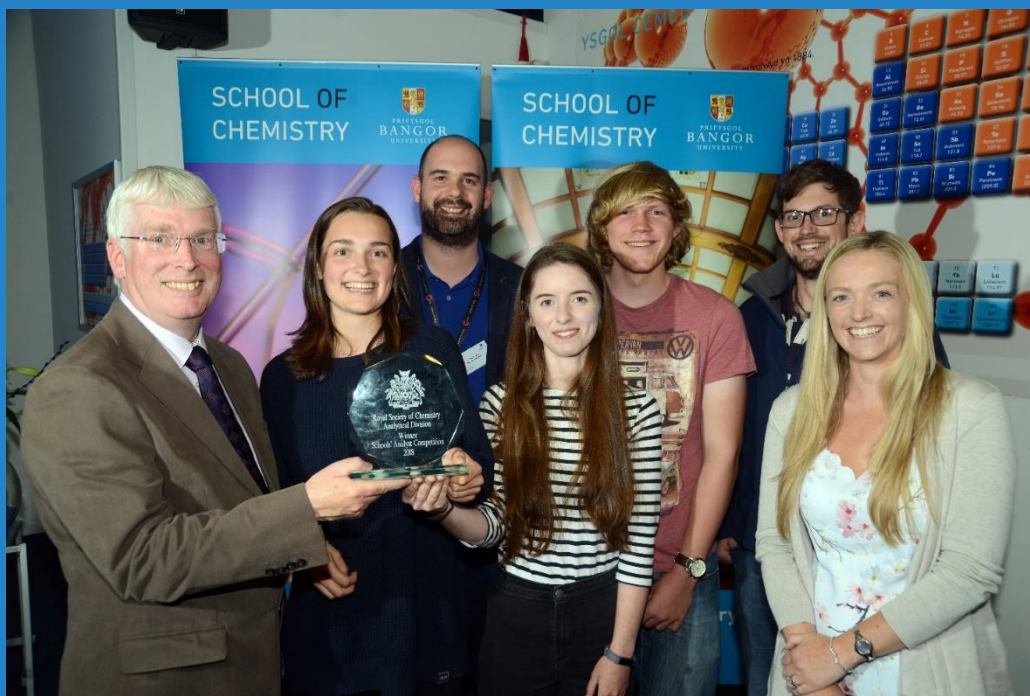


Photo 1: Prof. John R. Dean (RSC/AD and ACTF), Dr Leigh Jones (Bangor University), and the winning team of Anna Gilchrist, Abi Tamblin and Alex Moreman accompanied by Truro College staff Rosie Maguire and Matt Thurlow.

The runners-up were the team from King Edward VI Camp Hill School for Boys, representing the Midlands Region. The school received £2000 with the team members (Robert Hillier, Alex Byrne and Abhijit Pandit) receiving £50 vouchers each (Photo 2 Left). The team coming third was Ballyclare High School, representing the Northern Ireland Region, and they received £1000 and £25 vouchers to each of the team members (Eoin Metcalfe, Callum Blair and Lucy Sproule) (Photo 2 Right).

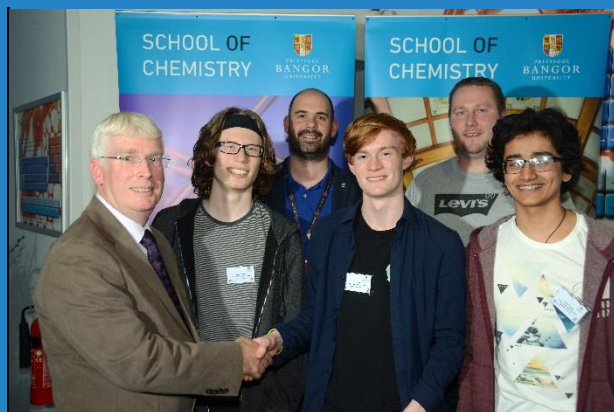


Photo 2: Prof. John R. Dean (RSC/AD and ACTF), Dr Leigh Jones (Bangor University) with (Left) the runner's up from King Edward VI Camp Hill School for Boys (Robert Hillier, Alex Byrne and Abhijit Pandit) accompanied by staff member Steven O'Malley, and (Right) the 3rd placed team from Ballyclare High School (Eoin Metcalfe, Callum Blair and Lucy Sproule) accompanied by staff members Anne Spence and Jason Gerrish.

The judges (Photo 3) for this year's competition were Dr Lorrie Murphy, Dr Vera Fitzsimmons-Thoss, Professor Mike Beckett (all Bangor), Scott Owen (Techniquest) and Prof. John R. Dean (on behalf of the Royal Society of Chemistry Analytical Division), who also chaired the judging panel and awarded the prizes.



Photo 3: L-R, (Left) Prof. John R. Dean (RSC/AD and ACTF), Dr Leigh Jones (Bangor University), Scott Owen (Techniquest) and Prof. Mike Beckett (Bangor University), (Right) Prof. John R. Dean (RSC/AD and ACTF) and Dr Vera Fitzsimmons-Thoss (Bangor University).

On behalf of the Royal Society of Chemistry Analytical Division, I would like to thank Bangor University for agreeing to host the Competition and for providing an excellent venue with facilities that show case analytical chemistry. Specifically, Siobhan Jones, Stevie Scanlan and Dr Leigh Jones for their excellent organisation and attention to detail of the whole event. In addition, I would like to thank staff and student helpers at Bangor for their organization of the Final, specifically, Gwynfor Davies, Nicholas Welsby, Glynne Evans ably assisted by the student helpers: Mari Slater-Parry, Sean Baxter, Anna Zelmer, Charlotte Booth, Ben Wood, Satsuki Ishi, Rachel Tweedy, Jack Owen, Eluned Hudson, Kenny Chan, Laurine Porte, James Cooper and Mohammed Aliyyami for making the whole event memorable for each of the 26 teams who attended (Photo 4). A special thanks to Delwen McCallum, from the RSC Education Department, who held a workshop with the visiting teachers during the competition.

The Competition is sponsored by the Analytical Chemistry Trust Fund, however during the 27 heats in which 344 Schools' participated throughout the UK and Republic of Ireland, many other organisations also provided financial sponsorship to support this national event. Without their help, the costs involved would be too prohibitive and some heats may not have been feasible. To all the sponsors, the Analytical Division expresses its gratitude. The regional organisers consistently receive a range of complementary comments from schools who participated, saying how much their teams enjoyed the experience. So, if you would like to get involved please contact your local Analytical Division Committee to find out more about where the heats are held in your region or contact me directly.



Photo 4. All the Finalists at the 2018 Schools' Analyst Competition at Bangor University.

Thank you to all the Analytical Division Regions for participating in this year's competition in this flagship event of the Royal Society of Chemistry. Also, without the agreement of the Universities to allow us to use their premises, the enthusiasm of the staff, both academic and technical, to develop and validate experiments and the additional help provided by the administrative staff in these Universities, the Competition would not exist.

Thank you for making the 2018 competition the most successful ever with 344 schools' participating. Thank you to the 1032 year 12 students for their enthusiasm in actively engaging in analytical chemistry, and the teachers who have supported their students in attending the competition. We hope that some of the first year sixth form students, aged 16-17 years old, studying Advanced level Chemistry or equivalent (e.g. Year 12 / S5) who participated in the competition, either during the heats and the final, will have been enthused by their experiences to go on to study Chemistry at University, and maybe choose Analytical Science as a future career. Finally, heats of the competition start again in early 2019 throughout each of the Analytical Division Regions and culminate in the final. In 2019 we are delighted that Manchester University has agreed to host the 30th Final on Wednesday 19 & Thursday 20 June 2019.

John R. Dean

Professor of Analytical and Environmental Sciences, Northumbria University.

Coordinator for the National Schools' Analyst Competition on behalf of the RSC/AD and ACTF.

Email: John.Dean@northumbria.ac.uk

The 70th Irish Universities Chemistry Research Colloquium

The 70th Irish Universities Chemistry Research Colloquium (IUCRC) was held in Queens University, Belfast, from 21st June to 22nd June. There was 21 oral presentations and 40 poster presentations by postgraduate students from Universities and Institutes of Technology throughout the island. In addition, there was two plenary lectures, including a fascinating presentation from Prof. Eric Anslyn on sensor development. His talk included the development of sensing devices for chiral compounds, long chain fatty acids and identification of wines using colorimetry and PCA. Notable among the postgraduate talks included presentations on air quality monitoring, development of microfluidic devices, magnetic chromatography and a colorimetric sensor for glyphosate. The next IUCRC will be held in Dublin Institute of Technology (DIT)/Royal College of Surgeons in Ireland (RCSI) in 2019. The event was supported by the Institute of Chemistry of Ireland (ICI) and the Irish chapter of the Royal Society of Chemistry (RSC). The ICI will celebrate its centenary in 2022 by hosting the 9th EUCHEMs Congress.

SURVEY REQUEST

The Standing Committee of Analysts (SCA) represents the collective knowledge of the UK in the provision of methodology which is given and shared freely for the purpose of ensuring quality and consistency in the chemical and microbiological analysis of water, waste water and related materials in the 'Blue Book' series of documents.

Clear, up to date, methodology produced by experts within their fields is key to the provision of robust, repeatable and accurate data. This is ever more important in the face of significant challenges from Regulations and Customers, and the potential threat of legal action. Achieving and maintaining documents of the required standard requires the contribution of the companies and organisations that will benefit from them.

In line with the 5 key objectives that the Strategic Board of the SCA outlined for the period 2014-2019 (please see below), we would like to take this opportunity to invite you to participate in a brief (approx. 5-10 min) survey which will provide vital information as to how the strategy is working.

Have you used SCA 'Blue books'? - [Take part in the SCA survey](#)

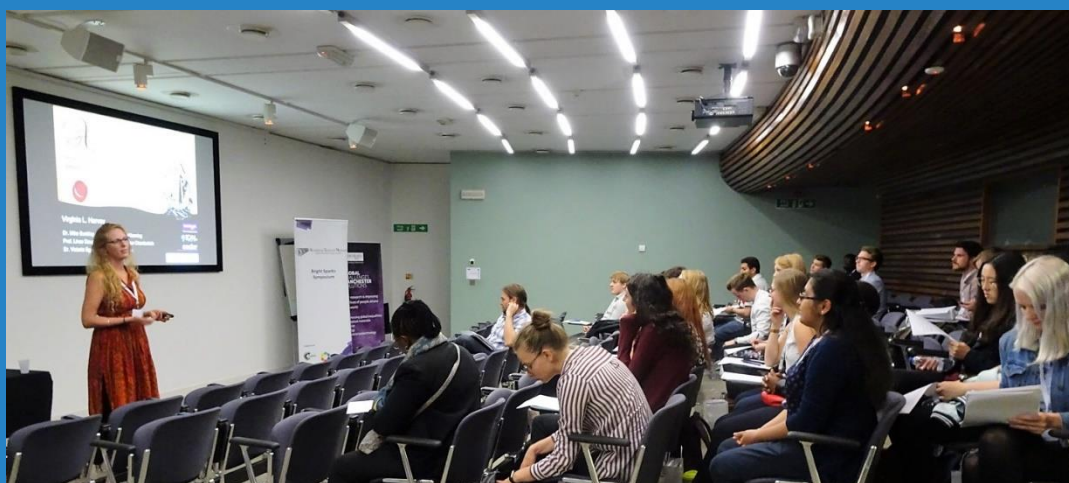
REVIEWS

BRIGHT SPARK SYMPOSIUM 2018

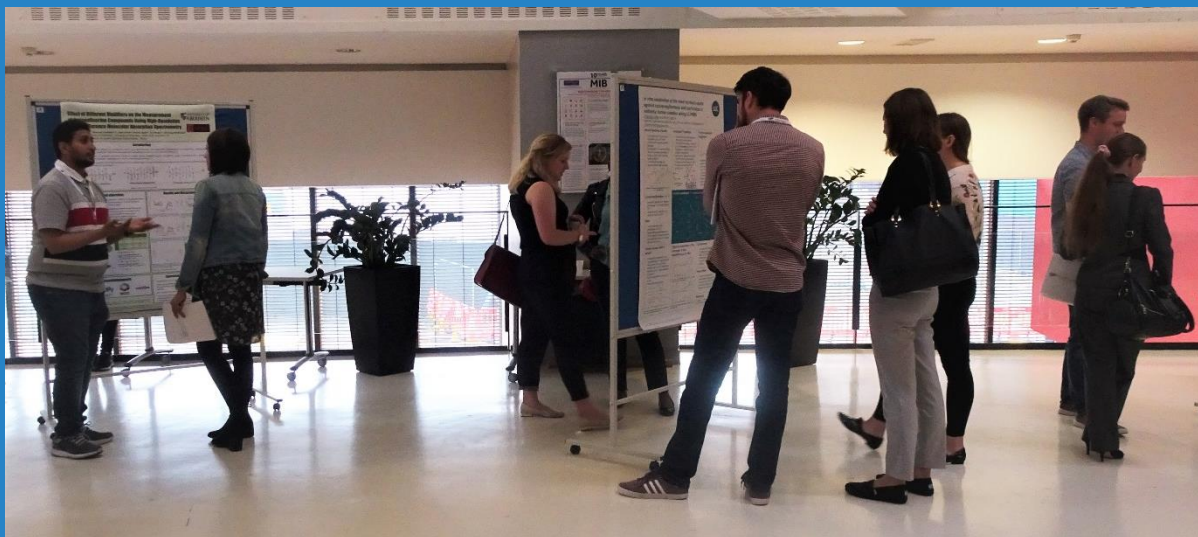
This year's Bright Spark Symposium was held at the Manchester Institute of Biotechnology (Monday 3rd September) and chaired by doctoral student Emily Kempa. This annual meeting, hosted by the Analytical Science Network, brought analysts and researchers together from both academia and industry. The one-day symposium, aimed at early career analytical scientists, gave delegates the opportunity to network with like-minded scientists from a wide range of analytical disciplines. This event provided a friendly environment for researchers to discuss their analytical challenges and triumphs. We enjoyed an extremely high calibre of presentations from a wide range of fields such as clinical diagnostics, forensics, and material sciences highlighting the breadth of analytical research carried out in the UK. Presenters from across the country showed-off their research ranging from proteomic applications for palaeobiology and novel spectroscopic carbon dating methodologies to the use of eye-tracking for sensing focal attention.

The prize for best oral presentation was awarded to James Hughes from the University of Birmingham for his research into the use of desorption electrospray ionisation (DESI) imaging to probe protein distribution as a diagnostic tool for non-alcoholic fatty liver disease. James said: "The Bright Sparks Symposium was a great opportunity to network with early career researchers and listen to some of the interesting science being undertaken. I would like to thank the committee for awarding me the prize for best oral and also thank the AMC for sponsoring the award."

The Bright Spark Symposium also showcased a large selection of poster presentations exploring novel applications for a wide range of analytical techniques. Highlights included the use of metallic nanostars for surface enhanced Raman spectroscopy (SERS) and a chromatographic study of changes in tryptophan metabolism with age. The best poster prize was decided by symposium delegates and was awarded to Lucy Wheeler from the University of York for her research into amino acid racemisation in foraminifera. Lucy said: "The Bright Sparks Symposium was a great opportunity to talk to other early career scientists passionate about their work in a friendly, relaxed environment. I would really recommend the conference to anyone interested in entering analytical science to learn more about what's out there for early career scientists both in and beyond academia. "



Palaeobiologist Virginia Harvey presenting her research into collagen fingerprinting



Delegates networking and discussing research with poster presenters

The ASN would like to congratulate both winners for their excellent presentations and thank the Analytical Methods Committee for sponsoring the prizes. Thanks to the RSC divisions that have supported us to make this event possible, and to all of our speakers and delegates for making this symposium a success. Our next event will be held in Leeds on the 10th-12th of May at Thorpe Park Hotel and Spa. As with all ASN events we hope to make this is a fantastic opportunity for early career analysts to network, present their research and explore a variety of scientific disciplines in a relaxed environment. Find us on LinkedIn, Facebook, Twitter, and Instagram and visit our website for more information, we hope to see you there.

Written by Jack Rice & Kelly Westmacott



Chair Emily Kempa with prize winner James Hughes

ANNOUNCEMENTS

Analytical Chemistry Trust Fund Update



**ANALYTICAL
CHEMISTRY**
TRUST FUND

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](#).

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