December 2014

Chemistry Equality and Diversity News

Quality and Equality

What drives the very best science? Hard work, creativity, an eye for detail, determination, passion, technical know-how, luck – yes, all of these, but what about diversity? What is the importance of working in teams which have a wide range of experiences, backgrounds, ethnicities etc. in doing the best science? It's certainly not something that often appears in research strategies, nor even in the impressions that many of us form when we think about how great science materializes. And yet, the evidence base for the importance of diversity in addressing the biggest scientific challenges continues to grow.

Indeed, as social scientists grapple with the issue of what leads to great science, the more and more they are showing that diversity is an important and possibly even essential element of scientific achievement. This is perhaps demonstrated no more vividly than in a recent study published in *Nature* (2014, 513, 305) where an association was shown between the implied ethnicities of co-author surnames on research papers and the subsequent performance of those papers in those scientific metrics (impact factor etc.) which have come to be the principal arbiters of our performance. This is an astonishing insight. In fact, such a compelling association between quality and equality opens up a wider debate of how we should value equality practice in terms of our own endeavours here in the department – the evidence is that when diversity is taken seriously, it really does make a difference: a significant one.

Paul Walton, chair of Equality & Diversity Group

Change of name for Athena SWAN Working Group

The Chemistry Department's Athena SWAN Working Group has been re-named the **Equality and Diversity Group**, in order better to reflect the group's focus on the wider issues of equality and inclusivity in the Department. The group's terms of reference are also being reviewed to align with this change. The Department's external web pages have been updated with the new group name, and new equality material on the Chemistry intranet will be finalised and made live early in 2015.

Previous minutes of the Athena Group meetings can be found on the website at: http://www.york.ac.uk/chemistry/internal/staffinfo/committees/aswanworkgrp/

If anyone would like to attend an Equality and Diversity meeting and find out more about the activities in this area then please contact Helen Coombs (helen.coombs@york.ac.uk)

New departmental 'champion' for postdoctoral researchers

The Equality and Diversity Group (Athena SWAN as was) proposed, and Departmental Management Team agreed, that we establish a new departmental academic role with an overview brief for the research staff (a "postdoc champion"). This would involve supporting the relevant staff, canvassing them for their views, representing the group and communicating their views to key Departmental Committees, ensuring good communications in both directions, etc. The role holder will be a member of Research Committee and will attend researcher fora.

Dr Martin Fascione has recently agreed to be the first postdoc champion and we will be discussing more details of the remit and responsibilities of the role in the coming term.

Richard Taylor

York Chemistry participation in national Athena Forum

On 28th November, Robin Perutz and Emma Dux headed off to the Royal Society in London to participate in the Athena Forum meeting.

Prof Athene Donald (Former Chair of the Athena Forum, Master of Churchill College, Cambridge and Professor of Physics) spoke about where the barriers against women in science lie. She discussed issues ranging from equal-pay reviews to bias in the refereeing process, and how to dispel ideas that part-time work means a lack of employee commitment. She also flagged up the fact that it is not just those with young children who may need to spend more time away from work and require extra support, but also those caring for elderly parents.

Prof Julia Higgins (founder of the Athena Project and Professor of Polymer Science at Imperial) gave an overview of how the Athena Project developed from a small initiative to the large scheme it is today, with the subsequent Athena SWAN Charter which is now to be extended to faculties other than sciences.

Prof Tom Welton (Head of Chemistry at Imperial, London) spoke about how he did not want to be labelled as a 'Champion of Diversity' but rather a 'Champion of Inclusion'. He discussed small but effective measures he had taken, such as entering the building at the other end to where his office is located, so that he passes more of the people working in his department and can greet them and ask how they are. He also explained his philosophy of running the department like a small business, taking actions such as investing in extra support for new academics or people returning from long-term leave to help get their research pipeline up and running within a quicker time period.

Much of the round-the-table discussions focussed on potential problems that might arise on the widening out of Athena to non-science departments, but also how ideas and practices could be shared more easily between departments and institutions, especially at management level.

Emma Dux

Alison Parkin enthuses Year 10 science pupils at Stokesley School

I am such an enthusiastic ambassador for science-for-everyone that I talked myself into giving a keynote presentation at Stokesley School's Science and Engineering Day while at a friend's wedding last summer (be careful whose sequin shoes you complement over champagne!). The day was originally inspired by the "Supporting National Women in Engineering Day" but I was pleased that the plan was to involve all the students, regardless of gender, and then actively choose female speakers and lab-session organisers, to try and counteract the mistaken notion that all scientists are men.

On Monday 23rd June I therefore set off with some trepidation to Stokesley to be greeted by an enthusiastic assembly room full of all the school's Year 10 triple science students. I gave a 20 minute talk about my career progression and the lovely team of scientists I work with at York, providing a short, hard sell on the wonders of using electrochemistry to study biochemical systems. I tried to emphasise the joys of working in a science subject and the range of opportunities which science qualifications support (although I am not sure that the entire analogy between my lifestyle and that of Lady Gaga worked completely across the board!). I then got chance to speak with many of the pupils in a "speed-dating" event where they brought along pre-planned questions.

I was amazed how many students were focused on earning potential- many more of the pupils were inspired by my friend's Aston Martin AstraZeneca-funded purchasing power than my University of York funded push bike, but there were some super keen academics of the future who were just interested in the wonder of science! I stuck around for an afternoon of fun teaching-lab experiments organised by Johnson Mathey, and was really impressed by the overall fun and interest of the day.

More details can be found here:

http://www.stokesleyschool.org/news/2014/07/17/science-engineering-day/

Alison Parkin

Teaching accolades for female Chemistry PhD students in 2013/14

This year has seen female Chemistry PhD students excel in teaching awards.

Kate Horner (pictured left, with Julia Sarju) has been awarded a prestigious Vice Chancellor's Teaching Award, the first Chemistry PhD student to do so. Kate received her award from the Vice Chancellor, along with other Chemistry winner, Nick Wood, at the degree ceremony on 16 July. Kate can add this achievement to her YUSU and CODY awards from 2012/13.

On 11 June, **Sindhu Krishna** and **Danielle Jowett**, along with Paul Walton

and David Pugh, were awarded York University Student Union (YUSU) Excellence in Teaching and Supervision awards. Sindhu received a Demonstrator of the Year award and Danielle was Highly Commended in the category for Demonstrator of the Year.

On 25 June, Sindhu and Danielle were two of five PhD students named Chemistry Outstanding Demonstrator of the Year (CODY), which this year saw all the awards go to female PhD students. The Chemistry Department appreciates the huge efforts from all of our graduate demonstrators to support delivery of the undergraduate course. While all demonstrators are expected to exhibit certain key skills, some are recognised as having performed exceptionally well in the role.

Nominations and comments were sought from undergraduates via the Staff-Student Committee reps, Practical and Maths Course Organisers, and David Pugh for laboratory-based demonstrators. From this consultation, a shortlist was drawn up. The 2014 winners were identified by the selection panel which consisted of Peter O'Brien, Nick Wood, Sue Couling and David Pugh. Congratulations to the all-female winners of the 2014 CODYs (pictured above): **Rachael Castle**, **Rachel Holmes**, **Danielle Jowett**, **Sindhu Krishna** and **Julia Sarju**.

Alice Duckett

The Philae Landing – a success for European scientists

On November 12th, decades of work resulted in the successful landing of the Philae Lander (from the European Space Agency's Rosetta Space Craft) on to a comet – a historic first landing of this kind. Although the final positioning of the Lander was not ideal, scientists were able to retrieve and analyse all the data they had aimed to obtain, and there is a chance that later in the comet's orbit, the Lander may be able to power up again to do further work.

Not only was this mission a massive achievement for European collaborative science, but it was also refreshing that the media did not just cover the event with images of male scientists; the coverage clearly demonstrated that many women were involved with the mission.


Professor Monica Grady from the Open University was filmed jumping for joy when the successful landing was announced. She had been involved in the project from its early stages and had helped develop Ptolemy (a shoe-box sized gas analysis instrument)

Emma Dux (images copyright ESA and BBC)

Kate Horner represents York in gender bias discussions at Sheffield

On 26th June, Kate Horner spent a day at the University of Sheffield discussing gender bias in HEIs and the progress made at York. She met with Professor Jane Grasby, a Professor in Biological Chemistry and Chair of the Faculty of Science Equality Diversity Committee, to discuss the work done at both departments. Jane described the success of the Sheffield's Women's Network, as well as a network for parents in academia. Furthermore, after a lecture on gender bias attended by some of their undergraduates, the main article in the new chemistry undergraduate magazine, Resonance, featured research on women in science and unconscious bias. The students also wrote a study on international chemistry relations ahead of the arrival of some students from Nanjing University of Technology, China, with whom they have a joint degree programme. Also discussed was the "Post-Doc drop-off" and whether it has anything to do with people's desire or will to move. Jane suggested that perhaps females value putting down roots more, and so are more reluctant to move to take up a PDRA position.

Kate also spent time with Professor Harm Askes, Head of the Department of Civil and Structural Engineering and Chair of the Women in Engineering Staff Group. He was very enthusiastic about promoting equality and supporting the talented women in his department and already had lots of ideas for making progress in this area. He was particularly interested in the way York offers flexible and part-time working, as well as our measures to encourage more women to apply for promotion.

A very interesting discussion occurred at lunch time between Kate, Pete Jones (a professional psychologist specialising in unconscious bias), Julie Campbell (the University of Sheffield's HR manager for Equality and Diversity) and Kate Watson (Faculty of Engineering Athena SWAN and Women in Engineering Support Officer). Pete shared a story from his previous unconscious bias lecture which involved a drop-in attendee. This audience member had come along because, during shortlisting for a job, his manager had suggested that he might be interested in attending something on unconscious bias as the manager felt that he was

displaying some bias towards a female candidate who he had discounted. The female candidate was reconsidered and ultimately was appointed to the position. It's this kind of gentle challenging of behaviour that Pete advocates in his talks, since we usually suffer from 'bias blindness' i.e. we don't see our own biases. In fact, Pete is working on coming up with a new language which can be used for this kind of challenging of behaviour which is completely non-threatening. For example, if you're being a bit of a "lawyer," he means that you seem to have taken a line on an issue and now can't see the other side. Or if you're more of a "dinner party host," it means that you are starting to surround yourself with people just like yourself. These gentle reminders could be the best way for you to help colleagues, and vice versa, keep your biases in check. This lunchtime chat also turned to the best way to support and promote LGBT and disabled engineers (also relevant to other departments, of course). It was decided that the trickiest aspect would be ensuring that in promoting these engineers, it was clear that they were engineers first and foremost, with their disability, for example, second. This prevents the formation of an "in" group which could be detrimental to inclusivity.

The final activity of the day was a joint lecture given by Pete Jones on unconscious bias and and Kate Horner on the impact of this on gender equality in HEIs. This was really well received by the audience, with lots of questions about how things run at York and why we are so successful here. The final impression was clear- we should be very proud of the work we do here.

Kate Horner

Men are parents, too

It would seem that the number of children that a woman has is still in some ways significant to her progress in life; at least that is the viewpoint of some media outlets when reporting on the recent success of "a mother of three". However a recent blog article "Men are parents too" by Athene Donald highlights that the issue with this reporting is not that the women's family status should not be mentioned but that men's should be! How many children a woman has, tells us nothing about how the situation has contributed to her success (or not). The article discusses the rise of shared parental responsibility and suggests that there should be more stories in the media for example about high-powered men who "change nappies". In conclusion, the article highlights that many of the issues lie in how to divide up parental leave to allow everyone to prosper.

The article generated some interesting responses, not all in agreement. Is it relevant to include aspects of family life into articles about professionals? Follow the link to read the article and subsequent discussion.

http://occamstypewriter.org/athenedonald/2014/09/04/men-are-parents-too/#comments

Katie Read

Your chance to shape UK priorities on gender equality

On 23 October 2014, the Government Equalities Office launched a public survey

https://www.gov.uk/government/news/your-chance-to-shape-uk-priorities-on-gender-equality

seeking views on:

- what progress has been made to improve the lives of women and girls in the UK since 2010
- what future priorities for women and girls the government should focus on in the next 5 years

The survey is open to all. It takes less than 5 minutes to complete. Your vital comments will help shape the UK's priorities on gender equality in the years to come.

Helen Coombs

50th Anniversary of Dorothy Hodgkin receiving the Nobel Chemistry Prize

Wednesday 10th December this year marked the 50th anniversary of Dorothy Hodgkin receiving the Nobel Prize for Chemistry for her "*determination by x-ray techniques of the structures of important biochemical structures*". Fifty years later, she still remains the only British female scientist to have won a Nobel Prize.

Dorothy Crowfoot was born in Egypt on 12th May 1910, and was sent to live in England under the care of relatives in 1914 upon the outbreak of World War 1. She developed an early fascination for chemistry and particularly for crystals from about the age of ten, an interest which was encouraged and nurtured by a family friend. Chemistry was not taught to girls at that time, but along with one other girl, Dorothy was allowed to study this subject at school. The subject continued to fascinate her, leading her to successfully apply to study Chemistry at Oxford University. Her interest in using x-ray crystallography grew and subsequently went on to research protein crystallography for a PhD at Cambridge, where she demonstrated that like in crystals of small molecules, crystals of proteins contained a well-defined arrangement of atoms.

After her PhD, Dorothy returned to Somerville College, Oxford upon receiving a fellowship. A research highlight soon occurred when she found that a crystal of insulin used for an x-ray diffraction experiment produced an x-ray photograph that contained regular arrays of tiny spots, proving that this complicated molecule was ordered within the crystal. Dorothy later recollected that the 'eureka' excitement of this result was not surpassed until 34 years later in 1969, when she found that the electron density map gained from the x-ray diffraction experiments was interpretable, allowing her to determine the structure of insulin. The final solving and refinement of the structure was completed after Dorothy's retirement, and was carried out in collaboration with her here at the University of York.

In 1964, Dorothy was the sole recipient of the Nobel Prize for chemistry, awarded for her pioneering work in a field now known as structural biology which included the determination of structures for molecules such as vitamin B12 and penicillin. Upon winning the Nobel Prize, the media coverage included

headlines such as “Oxford Housewife wins Nobel”, “British woman wins Nobel Prize - £18, 750 prize to mother of three,” and it was noted that the prize had been won for a “thoroughly unhousewifely skill”.

After her return to Oxford, Dorothy married the historian Thomas Hodgkin. Despite having three children, and Thomas having to travel a great deal, Dorothy still managed to continue with her ground-breaking research. The extraordinary nature of this feat is highlighted by the fact that she was first research fellow at Somerville College to start a family, and was the first recipient of maternity pay at Oxford University. Another barrier that Dorothy Hodgkin overcame was that of rheumatoid arthritis which began with pain in her hands aged 24 years old, and later resulted in her hands and feet becoming deformed and spending a great deal of time confined to a wheelchair.

The enormous impact that Dorothy’s pioneering work had on the field of structural biology is still evident today with the structural determination of proteins being a substantial field of research which is vital for understanding disease and developing new drugs. The significance her work still has today is perhaps illustrated by the Google commemorating what would have been her 104th birthday this year. On May 12th the Google homepage had a ‘Google Doodle’ (a temporarily altered version of the Google logo that is done to celebrate particular events and holidays) which featured the structure of penicillin G which Dorothy discovered.

The BBC have recently broadcast the correspondence of Dorothy Hodgkin in “An Eye for Pattern: The Letters of Dorothy Hodgkin” in five episodes on Radio 4 to celebrate the 50th anniversary of her being awarded the Nobel Prize. It is available to listen to for the next year online at http://www.bbc.co.uk/programmes/b04lc3gt.

Emma Dux

Dorothy Hodgkin Fellowships now open

The Royal Society's Dorothy Hodgkin Fellowship scheme is now open for applications (closing date **12 January 2015**).

This scheme provides funding for outstanding, early-career scientists in the UK who require a flexible working pattern due to personal circumstances such as parenting or caring responsibilities or health issues. To find out more information including case studies about current holders, visit: https://royalsociety.org/grants/schemes/dorothy-hodgkin/

Dr Brendan Garrett who recently started work in the Department of Chemistry, collaborating with Dr Victor Chechik has a Dorothy Hodgkin Fellowship.

Helen Coombs

Supporting diversity and encouraging inclusion

Dave Smith and Cheryl Alexander (former undergraduate and Masters student in the Department) both contributed this Education in Chemistry article on 'Supporting diversity and encouraging inclusion'

http://www.rsc.org/eic/2014/09/diversity-inclusion-role-model

Helen Coombs

SWANning the Science Gender Gap

A recent article in the November issue of Nouse (The University of York's original Student Newspaper) highlights the work that York is doing to combat the gender gap in science and the mentions the 100% return from maternity leave in Chemistry.

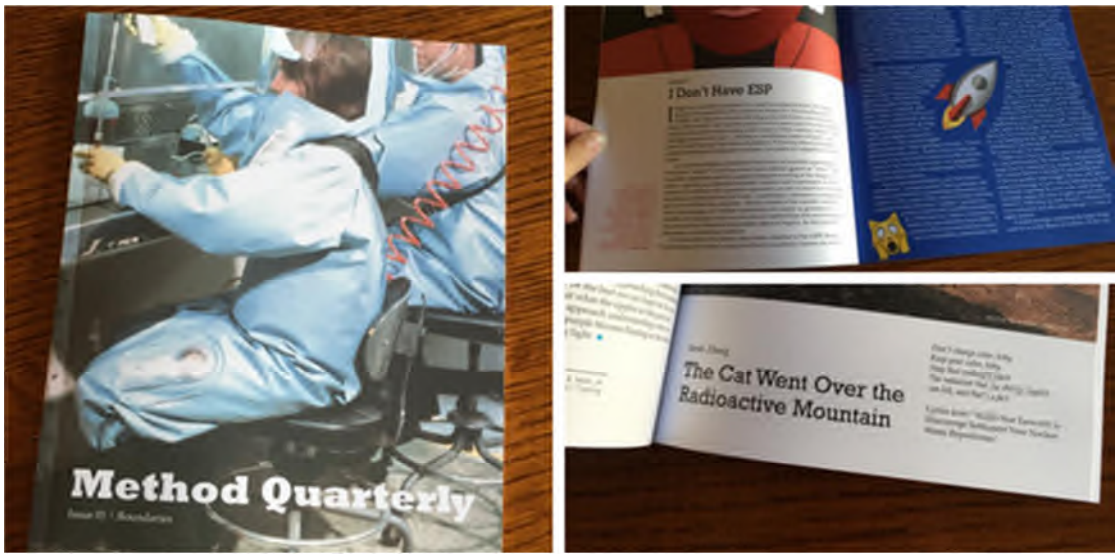
http://www.nouse.co.uk/2014/11/01/swanning-the-science-gender-gap/

Helen Coombs

Launch of new e-magazine *Method Quarterly*

Method Quarterly was launched in November as an electronic magazine designed to bring together scientists, academics, artists and writers from a wide range of areas that fall under the general banner of science, and promises to keep asking the big question of "what is this thing called science?" The founding editor is Christina Agapakis, a biology postdoc at UCLA.

Issue 1 (view online at http://www.methodquarterly.com/ and twitter at @methodquarterly) is entitled 'Boundaries', and covers issues including how to cross boundaries in science and how to break them down.



Emma Dux

Paul Walton and Babatunde Okesola join RSC's 175 Faces of Chemistry

Equality and Diversity Group Chair Paul Walton has now been chosen as one of the Royal Society of Chemistry 175 Faces of Chemistry, which is aimed at highlighting and celebrating the diversity of the individuals, both past and present, who have helped to shape chemistry and science as a whole.

We now have six of the RSC's 175 Faces of Chemistry, representing a real breadth of diversity.

Paul, a bioinorganic chemist, investigates the structure, spectroscopy and reactivity of metal ions at the active sites of enzymes, also known as LPMOs. Gender equality is an issue that Paul takes seriously, and he has spoken on diversity issues on both national and international stages including the national headquarters of CNRS in France. Find Paul's "Faces of Chemistry" page here:

http://www.rsc.org/diversity/175-faces/all-faces/professor-paul-walton-cchem-frsc

Chemistry PhD student, Babatunde (Tunde) Okesola, has also recently been named as one of the RSC's 175 Faces of Chemistry. Tunde joined the Department in February 2012 to carry out an MSc by research with Professor Dave Smith. Following a successful first year, with the support of a Wild Fund Scholarship, Tunde transfered into the second year of a PhD. Working with Dave on supramolecular hydrogel, he aims to harness the power of supramolecular interactions to assemble novel small molecules into hydrogels. Balancing a family, part time work and his PhD research, Tunde aims to make every second count:

http://www.rsc.org/diversity/175-faces/all-faces/babatunde-okesola-0

Useful resources for researchers

Registering with the global academy jobs website which lists academic and research jobs around the world allows researchers access to a weekly bulletin which includes a lot of useful information: http://globalacademyjobs.com/

For example:

- Social Media – a guide for researchers: http://www.rin.ac.uk/our-work/communicating-and-disseminating-research/social-media-guide-researchers
- The postdoc way, an interactive guide for postdocs by postdocs... http://www.thepostdocway.com/
- The University of Manchester guide to an academic career: http://www.academiccareer.manchester.ac.uk/foryou/
- The Elsevier Guide - Get noticed: Disseminate your research better

  http://www.elsevier.com/__data/assets/pdf_file/0004/145048/Authors_Dissemination_Brochure_170912.pdf

Helen Coombs