Charles still going strong for his 85th

For all of us in Sheffield’s Department of Chemistry, science is a lifelong passion. But few researchers have remained as active in science for as long as Professor Charles Stirling FRS, who has just turned 85. An Emeritus Professor and living legend, he still inspires countless young scientists.

It’s rare that we get to celebrate such a milestone for a staff member, so the Department hosted a special birthday symposium for Charles.

The list of speakers was made up from the group of organic chemists who were appointed when Charles was Head of Department. Some returned to Sheffield from posts at the University of Cambridge, the University of Bristol, University College London and Imperial College London to catch up with Charles, while others have continued working with him here in our department.

Charles began his career with a BSc at the University of St Andrews followed by a PhD at King’s College London. He then took a research fellowship at the Chemical Defence Experimental Establishment at Porton Down where he investigated antidotes to nerve gases, mapping out the chemistry of their destruction while working on developing the best experimental techniques for handling them.

He then took up posts at the University of Edinburgh, Queen’s University Belfast and King’s College London, before working at Bangor University, where he was based when he was made a Fellow of the Royal Society in 1986.

Since he joined the University of Sheffield in 1990 (first as head of the organic chemistry team, and later as Head of Department) Charles has given the world famous Royal Institution Christmas Lectures, along with many other public lectures, and he has been instrumental in the success of Science Week events locally.

Although he officially retired in 1998, as an Emeritus Professor, Charles has used his extra free time to spend even more hours in the lab, working with advanced equipment that would have been unimaginable at the start of his career.

Prizes for postgrads

Two of our postgraduate students have been given prizes in recognition of their first-rate work.

Laura Shallcross won the Nature Chemistry Prize for Best Short Presentation at the fifth annual Royal Society of Chemistry Postgraduate Symposium on Nanotechnology.

The symposium took place at the University of Birmingham and Laura’s prize winning talk was entitled ‘Investigating the interactions between nanoscale calcium phosphates and polymer additives’. Laura is currently working with Dr Seb Spain here in Chemistry and Professor Paul Hatton in the School of Dentistry on the development of new materials for the regeneration of bone and teeth.

Meanwhile, Will Cullen was awarded the 2015 PhD Thesis Award by the Macrocyclic and Supramolecular Chemistry (MASC) Discussion Group – a sub-group of the Royal Society of Chemistry.

Will worked with our Head of Department, Professor Mike Ward, on studying the self-assembly and host-guest chemistry of ‘coordination cages’ – hollow molecules that encapsulate other small molecules inside them.

The work resulted in eight publications, including papers in Nature Chemistry, the Journal of the American Chemical Society and Chemical Science. Will is now working in the Department as a postdoctoral researcher.
Students inspire new generation

Our outreach team runs a busy programme of activities for school pupils – and none of it would be possible without help from our student community.

The dedicated Schools Lab in the Department of Chemistry gets regular visits from schools and colleges across the region. Our staff and students host sessions on many aspects of chemistry, from laboratory classes based around medicine for secondary school pupils, to spectroscopy sessions for older students who are completing their A Levels.

We recruit student volunteers to help us run these sessions each academic year, and it’s a great way for our undergraduates to share their love of science and practice communicating complex ideas.

One popular scheme is the Science and Engineering Champions, a group of University of Sheffield students who are dedicated to promoting the STEM subjects to young people.

They work with our outreach team on chemistry activities, and events across the University through the Discover US and Discover STEM programmes.

We also join institutions across the UK to take part in the Salters’ Festival of Chemistry, which runs between March and June in partnership with the Royal Society of Chemistry.

Pupils are given a chemistry challenge to complete with help from our students. Prizes are given out to the best young scientists, so that school pupils are encouraged to follow in our students footsteps towards a great career in science.

Big achievements and new faces

There have been lots of successes to celebrate in our department recently, from new appointments to new achievements by our staff.

Dr Robert Dawson is our newest Lecturer in Polymer Chemistry. He joins us from working as a researcher in Liverpool, Berlin and Bath, with interests in porous polymers, gas storage, heterogeneous catalysis and CO₂ utilisation.

Rob arrived just in time to celebrate the promotion of Julia Weinstein to Professor of Physical Chemistry, for her work on the ultrafast dynamics of electron and energy transfer in the condensed phase. Dr Thomas Anderson has been promoted too, becoming a University Teacher. He manages our level two organic chemistry teaching lab and is one of five staff members with a teaching-only role.

Their promotions came shortly after Jim Thomas was made Professor of Bio-inorganic Chemistry for his research into luminescent metal complexes that interact with ions, molecules, and biomolecules such as DNA.

Congratulations are also owed to Jenny Louth, one of our technicians, who has passed her PhD. Jenny has spent the last eight years studying part-time as a doctoral student, while still supporting staff with micro-analysis work.
New team to tackle antibiotic resistance

The introduction of antibiotics in the 1940s revolutionised healthcare, but now antimicrobial resistance (AMR) is an increasingly serious global threat.

In a recent report the World Health Organisation declared that without new antibiotics, “many standard medical treatments will fail or turn into very high-risk procedures.” The report went on to warn that AMR is “threatening our ability to treat common infectious diseases, resulting in death and disability of individuals who until recently could continue a normal course of life.”

The Chief Medical Officer of the UK, Dame Sally Davies, takes a similar view; she thinks that AMR poses “a threat arguably as important as climate change for the world”.

To address this urgent and rapidly emerging problem, the University of Sheffield has launched the Sheffield Antimicrobial Resistance Network, SHAMROK. This multidisciplinary initiative aims to produce new research to tackle the growing threat of AMR.

SHAMROK is an alliance between chemists in our department, biologists, medics, physicists and engineers in Sheffield and their collaborators around the world.

The aims of this wide-ranging project will be to develop and identify:

- new tools to understand bacteria and their interaction with their host
- new dressings and tissue engineering-related approaches to prevent infections
- new and novel antimicrobials

The network started in January 2016 with a special symposium at the University, where a range of leading academic and industrial speakers from the UK and Europe introduced the research agenda and future challenges for an enthusiastic audience.

Fresh praise for Sheffield in new top 100 lists

The University of Sheffield’s global reach has been recognised in a new University league table.

Sheffield has been named as one of the 100 ‘most international’ universities by the Times Higher Education supplement. The list celebrates institutions that demonstrate an international outlook to attract the best staff and students from around the world.

Phil Baty, Editor of Rankings at Times Higher Education, said: “An institution’s global outlook is one of the key markers of a prestigious university. The top institutions hire faculty from all over the world, attract students from a global market of top talent and collaborate with leading departments wherever they happen to be based.”

There are currently more than 120 nationalities represented on campus today, so it’s a great place to meet people from all over the world.

Our Vice-Chancellor, Professor Sir Keith Burnett said: “Our University takes great pride and strength from being a global community of scholarship in which staff and students from over 100 countries come together to discover and understand, addressing challenges which are beyond borders.”

The University of Sheffield has also been praised by leading LGBT charity Stonewall: in January, we were named as a top employer for workplace equality in the Stonewall Top 100 Employers list.
Further information on all our courses can be found at [www.sheffield.ac.uk/chemistry](http://www.sheffield.ac.uk/chemistry)

Contact: Admissions Office  
Email: chemistry-admissions@sheffield.ac.uk

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Staff profile  
Professor Julia Weinstein

Julia’s science career began in her native Russia. Following undergraduate chemistry studies at Moscow Lomonosov State University, she completed a PhD and became a member of staff there.

She came to the UK through a prestigious Royal Society/NATO Fellowship, which allowed her to carry out research at the University of Nottingham. Although she first took up a Chemistry lectureship at Nottingham, when she was awarded a highly sought after EPSRC advanced Research Fellowship she grasped the opportunity to move to Sheffield.

In the last year Julia has been rapidly promoted, first to a readership and then a personal chair. This reflects her spectacular recent achievements, which includes research papers in hugely influential journals such as Science and Nature Chemistry and a string of journal front covers.

Her work is highly collaborative in nature, with collaborators including Dr Anthony Meijer’s group here in Sheffield and the Rutherford Appleton Laboratory in Oxfordshire. Julia is also the Director of our interdisciplinary Chemical Physics courses.

Julia has also found time to successfully apply for several research grants, including £1.5m funding to set up a regional centre for ultrafast laser spectroscopy, to study the extremely fast reactions at the interface of chemistry, biology, physics, and materials science.

The new equipment allows researchers to probe chemical processes occurring in one billionth of a millionth of a second and, amongst other things, it will be used in the design and study of new technologies such as new-generation photovoltaic solar cells and photo-driven "smart materials".

Next steps with your application

Since autumn, we’ve been busy working our way through applications to study on our undergraduate courses. We’re also in the process of asking successful applicants to attend an interview, or making them a direct offer, along with an invite our Departmental Open Days.

The open days include a coach tour of Sheffield city centre and university area, a guided tour of our accommodation, a talk from one of our lecturers and an in-depth tour of our facilities.

After that, UCAS requires you to pick firm and insurance choices from the courses you’ve been accepted on to. You can find the deadline for you on the UCAS website.

Then, when exam results come out in mid-August, and if you get the grades required for the course, your place in this department will be confirmed if you made Sheffield your first choice.

If your exam results don’t quite reach the standard we have specified in our offer, it is unlikely that your place will be confirmed. However, you can contact us and we may consider you for any remaining places through the clearing process. Good luck!