2012 League Tables
We achieved an overall score of 90.3% (ranked 7th) for Chemistry in the Times Good University Guide 2012. The league table bases its rankings on student satisfaction, research quality and graduate prospects and it highlighted the excellent performance of The Department of Chemistry in various areas including student satisfaction and entry standards. The Guide notes:

The University has done well in the National Student Survey. York has finished in the top 30 universities in all six years of polling. Archaeology, biology, chemistry, molecular biology, biophysics and biochemistry, and physical geography and environmental science all produced particularly high levels of satisfaction in the 2010 result.

For 2012, the Department of Chemistry at York consistently features in the top-seven across a number of other league tables including The Independent Complete University Guide 2012, The Guardian University Guide 2012 and Times Good University Guide 2012.

Second Place in the NSS

In the 2011 National Student Survey (NSS), the Department of Chemistry confirmed itself as one of the very best places in the UK to study Chemistry. Overall student satisfaction levels of 99% demonstrate a massive vote of confidence from our students. With a 91% average satisfaction score across all questions on the survey, York was one of only five departments to break the 90% barrier – well above the average score for Chemistry departments of just 83%. Students indicated high levels of satisfaction in all areas of the survey, and in particular ranked York in the top 5 UK departments for teaching quality, academic support and the quality of assessment and feedback. Combined with data from the Research Assessment which indicated that 75% of all research in the department was internationally excellent, the third best result, the NSS helps confirm York as one of the elite UK Chemistry departments.

February 2012 NEWSLETTER

A flavour of success

We hope this newsletter will give you a flavour of some varied highlights in what has been a highly successful year for Chemistry@York.

Our achievements include the award of a number of high profile research grants in areas including atmospheric, materials and biological chemistry. We are also proud of the numerous Chemistry staff and students, who have been awarded prestigious prizes, and for the significant academic achievements of our students – for example, last year, over 84% of our MChem students achieved a first or upper second class Honours.

The results of the latest National Student Survey, (NSS) showing student satisfaction levels of 99%, confirm that York is one of the very best places to study Chemistry. Indeed, admissions to Chemistry@York is buoyant and our 2011 entrants achieved a record high average tariff score (equating to A-level grades of AAA).

Our new building programme is well advanced, with the second phase of the Dorothy Hodgkin Research Building due for completion in May. This will be followed by construction of an exciting new spacious New Chemistry buildings

The University has initiated a £16.5 million phased redevelopment of the Department of Chemistry. New state-of-the-art facilities are being provided for both research and undergraduate laboratories. The first stage of this exciting development involves the completion of the Dorothy Hodgkin Research Building at a cost of £6.5 million, providing additional accommodation for about 100 researchers. Following completion on this building in May 2012, in a second development, a new two-storey building will be constructed.

On the ground floor, state-of-the-art teaching laboratories will provide outstanding professional-standard training facilities for the scientists of tomorrow. On the upper floor, the building will house our Green Chemistry Centre of Excellence, a world leading research centre which aims to promote the development and implementation of green and sustainable chemistry and related technologies into new products and processes.

Teaching Laboratory and Green Chemistry Centre, providing world-class laboratory facilities for our students and researchers.

Outside of Chemistry, the University is making rapid progress in expanding Heslington East, with a new college and sports village scheduled for completion in July 2012, and the £20 million refurbishment of the university library (on Heslington West) will also be complete this year. The refurbished library will offer a range of 21st-century technology and media-rich learning, teaching and research environments.

Chemistry@York is an exciting and dynamic place in which to work and study. Come and see for yourself!

Professor Richard Taylor, Head of Department
The Launch of Chemistry@York

Students applying for an undergraduate Chemistry programme for entry in 2012 or 2013 now have access from point of application, to a new, distinctive VLE site called ‘Chemistry@York’.

Prospective students access the site via a username and password. The site has been developed specifically to form an early engagement with students during the crucial decision-making ‘1-in-5’ stage and provides a unique insight into life as a Chemistry student at York. The site addresses four key areas:

- Application Information
- Our Courses
- Careers and Employability
- Featured Items

For example, under Our Courses there is detailed information on our diverse and innovative range of teaching methods and small group college-based teaching. We have also included a typical student week and 5 videos along with lab scripts, quotes from current students on each of the four main themes and screencasts explaining how our tutorials and workshops support our students throughout each year of their studies.

The creation of the site has been fully funded by the University’s Strategic Teaching and Learning Fund and it is envisaged that it will be an example of good practice for other York academic departments.

Chemistry Admissions Feb 2012

Ewald Prize

Professor Eleanor Dodson shared the ninth Ewald Prize for the enormous impact made in the area of structural crystallography. Invaluable contributions to the computational side of the field mean that daily, all over the world, thousands of crystallographers are profiting from their excellent achievements.

Vice Chancellors Awards

The following VC awards were awarded to the department last year:

- The Athena SWAN team in Chemistry was awarded a Gold Award for Outstanding Achievement in the Inclusivity Category
- The Green Chemistry team were awarded a Gold Award for Outstanding Achievement in the Sustainability Category
- Professor Simon Duckett (Chemistry) and Professor Gary Green (Psychology) were awarded a Gold Award for Outstanding Achievement in the Excellence Category
- The Chemistry Undergraduate Admissions Team were awarded a Silver Award for Outstanding Achievement in the Excellence Category

Eliahou Dangoor Sponsorships

We are proud to announce that four of our first year Chemistry undergraduates have each been awarded one of the prestigious Eliahou Dangoor sponsorships. The sponsorships were created by Dr Naim Dangoor to give talented students the opportunity to study science, technology, engineering and mathematics subjects at leading universities in the UK, including York.

Departmental Vacation Bursaries

Last year the Department initiated a new scheme that offers up to 10 bursaries for our undergraduate Chemistry students per year, to undertake an 8–10 week research project over the summer vacation. The scheme is open to students who have completed their first or second year of studies, and it offers them the opportunity to work in a research group of an academic member of staff of their choice. As well as the opportunity to further develop their practical skills, our students learn more about a specific area of modern Chemistry, and receive £100 per week. Projects from last year included “Doing a lot in one pot: a radical approach to shogaol and related ketones”, “Stay cool: enhancing coolants using additives with phase transitions” and “Novel degradable polymers for gene delivery”. These placements are of particular interest to our students considering a career in research, for example, those contemplating a PhD degree.

Chemistry Awards Bulletin Board

Supervisor of the Year

A “Supervisor of the Year Award” from the University of York Students Union (YUSU) was awarded to Dr Ayta Matharu in 2011 and presented at a special ceremony by the Deputy Vice Chancellor, Professor Trevor Sheldon. In total, our students nominated seven Chemistry supervisors for the award.

Analytical Prize

A York Undergraduate Chemist Katie Barnes won the Royal Society of Chemistry Analytical Prize for 2011 for her significant achievements in the area of analytical Chemistry.

Royal Society Honour

Professor John Goodby who specialises in research into liquid crystals, has been elected a Fellow of the Royal Society, one of the world’s top scientific honours. Professor Goodby’s research focuses on the use of liquid crystals in a range of high technology applications, including large area flat panel displays, microdisplays, sensors, imaging devices, biomedical materials, surface coatings, and smart adhesives. Last year, Fellowships were also awarded to Professors Robin Perutz and Gideon Davies.

Wellcome Trust Fellow

Professor Sir John Holman has been appointed Senior Fellow in Education at the Wellcome Trust, to advise the Trust on education policy and strategy.

RSC Environment Prize

Professor James Clark received the Royal Society of Chemistry’s Environment Prize last year. Professor Clark views waste as future feedstock – he is interested in making chemicals, fuels and materials from chemical, food and other wastes, solving both the problems of increasing waste and decreasing resources. The award recognises Professor Clark’s “fundamental and applied research contributions to green chemistry, clean technology and sustainability”, and “his educational, publishing and public awareness contributions in the green chemistry area.”

A still from our ‘typical week’ video

www.york.ac.uk/Chemistry
Graduates and Employability

Our Chemistry degree courses are designed to give our students a thorough grounding in all aspects of modern Chemistry and a qualification from the University of York is highly respected by employers. For example, our 2011 Chemistry graduates are going on to a wide range of careers, including:

- **Studying for a PhD degree** (at York and elsewhere) in topics ranging from biological chemistry, NMR spectroscopy, atmospheric chemistry, surface chemistry, polymers & colloids, organic synthesis and drug discovery & design – for example, one of our students will be studying for a PhD at the University of Helsinki, after completing a year at this university as part of our MChem Year Abroad programme.
- **Working in the chemical industry**, in areas including chemical analysis and drug discovery – indeed, some of our MChem Year in Industry students have accepted job offers to continue working at their placement company (in companies including Johnson Matthey and Unilever).
- **Studying for a PGCE** to gain Qualified Teacher Status and enter the teaching profession.
- **Various non-scientific careers** including finance, commerce, media and politics – for example, Chris Maughan has become Blackpool Borough Council’s youngest ever councillor.

Our Chemistry students have an excellent record of achievement and for our 2011 graduates, 70% achieved a first (1st) or upper second class (2:1) Honours degree and, of these, 84% of our MChem students achieved a first or upper second class Honours.

For 2012, a new Chemistry careers website has been constructed, with topics such as ‘CVs, interviews and applications’ and ‘interested in further study’. Also included is information on an Employability Tutorial, created by the university, to help our students think about what they might want to do when they finish their degree and articulate their own “employability plan”.

Teaching Initiatives and Staff Student Consultative Committee (SSCC)

Our students play an important role in helping us to evolve and improve our courses and the SSCC has played a particularly important and active role. Examples of recent initiatives prompted by the SSCC include:

- The introduction of new infrared heaters in teaching laboratories
- At twice-termly supervisory meetings, personal supervisors now have a check list of topics to discuss – from careers advice to selection of option courses
- Additional textbooks have been purchased and added to the main university library, including Year 1 and 2 texts that support core lecture courses
- Refurbishment of the area outside our main lecture theatre to create a small social area (pictured below).

250th Anniversary of Chemist

The Department of Chemistry has celebrated the 250th anniversary of the birth of Selby scientist Smithson Tennant with a series of public events. Smithson Tennant discovered the elements of osmium and iridium and was known for his ability to enthuse his audiences to study science. He was holder of the 1703 Chair of Chemistry at the University of Cambridge, a Fellow of the Royal Society and winner of the Royal Society Copley Medal.

The North Yorkshire scientist’s legacy to science was celebrated with two major public lectures organised by the Department of Chemistry and David Lewis, a Selby historian and former York chemist. The celebrations took place as part of the International Year of Chemistry and were designed to mark Smithson Tennant’s birth on 30 November 1761.

Admissions Team – THES nomination

Members of the Chemistry Admissions team, including Dr Andrew Parsons, Katrina Sayer, Dr Annie Hodgson, Dr Barry Thomas, and undergraduate student Mary Wheldon, along with Professor Taylor and Dr Helen Coombs, attended the 2011 Times Higher Education Leadership & Management Awards (THELMA) at a glittering ceremony at the Grosvenor House Hotel on Thursday 16 June. David Duncan, Registrar at the University of York attended the event and said:

“The shortlisting of the Chemistry Admissions Team for a THELMA was richly deserved. Chemistry goes to enormous efforts to make students feel they belong to the Department, and that progress begins long before they arrive in York. The Admissions team has a key role to play, and is miles ahead of its competitors in other universities.”

www.york.ac.uk/Chemistry
Chemist’s nanoscale fight against fatal lung disease

Over 9,000 people in the UK suffer from cystic fibrosis, an inherited condition that causes chronic lung infections and a life expectancy of just 37 years. Therapies under development at York could transform the lives of people who suffer from this cruel genetic disorder and the vehicle used to deliver them is only a couple of nanometres across.

No more free rides for ‘piggy-backing’ viruses

York biological chemists have collaborated as part of an international team to determine the structure of the enzyme endomannosidase, significantly advancing our understanding of how a group of devastating human viruses including HIV and Hepatitis C hijack human enzymes to reproduce and cause disease. The findings open the door to the development of new drugs to combat these deadly viruses that infect more than 180 million people worldwide.

Atmospheric Chemists awarded £900k

The atmospheric research group in the Department of Chemistry have had three new grants funded through the NERC standard grants scheme, totalling around £900k. The first project is a collaboration between Dr Jacqui Hamilton, Professor Ally Lewis, and Professor Dwayne Heard at the University of Leeds, to test current understanding of the sinks for the hydroxyl radical in urban environments. The second project is a collaboration between Professor Ally Lewis, Dr James Lee and Professor Nick Hewitt at Lancaster University, and with the Local Atmosphere division of Defra. This project will develop new technologies which allow for the measurement of regional fluxes of NOx using low-and-slow flying aircraft.

Putting sunshine in your tank

Scientists from the University of York are part of a team working on how to use the energy of the Sun to make fuels, which could help to solve the world’s escalating energy crisis. Together with researchers from the Universities of Manchester, East Anglia (UEA), and Nottingham, they are working to harness the vast energy of the Sun to produce clean fuel, using nanotechnology 100,000 times smaller than the thickness of a human hair. The scientists presented their research at the Royal Society’s annual Summer Science Exhibition which opens on 5 July.

‘Star Wars’ laser experiment improves understanding of Earth’s atmosphere

York chemists are part of an international research team exploring novel ‘Star Wars’ techniques to improve our understanding of the Earth’s atmosphere and of global change. As part of a project funded by the European Space Agency (ESA) and led by the University of York’s Department of Chemistry, researchers recently took part in a two-week experiment designed to test the feasibility of using new techniques on future space missions.

New Marie Curie Network in York

Dr Gideon Grogan (YSBL, Chemistry) and Professor Neil Bruce (CNAP, Biology) have been awarded £650,000 by the European Union for the Marie-Curie Network project P4FIFTY. The Network will be coordinated from York and will involve collaborator Universities in Germany, France, Denmark and the Netherlands, as well as industrial partners. The project, which combines chemists, biologists and biochemical engineers, will focus on the development of cytochromes P450 as industrial biocatalysts for green oxidation chemistry.

Large EPSRC Grant Win for Liquid Crystals Research

Professor John Goodby FRS, Doctors Stephen Cowling and Isabel Saez and Professor Peter Raynes FRS have been awarded a research grant by the EPSRC entitled “Self-Organisation and Self-Assembly in Aliphatic Based Liquid Crystals” to start at the beginning of 2012. The total value of the grant is over £800,000.
Chemistry of a Night Out

Our first year chemists have taken a closer look at the ‘typical’ components of a night on the town. In the summer term last year, as a new initiative for their practical course, our first year students investigated the chemical composition of samples of fast food, alcoholic beverage and tobacco products. Many of the samples were sourced locally. The food samples were analysed for fat content by saponification and subsequent Gas Chromatography (GC) and for protein content by Kjeldahl analysis. The levels of ethanol in a variety of beers, wines and spirits were measured using Benedict’s solution and UV-vis spectroscopy. Finally, cigarettes and cigars were burnt and their gaseous emissions passed through water, dissolving nicotine, before analysis using High Performance Liquid Chromatography (HPLC).

Throughout these experiments the students worked in groups, which gave them an opportunity to develop their team working and time management skills. They also had the opportunity to plan some of the experiments themselves. At the end of the project, they collaborated to produce a poster displaying their results and they also gave a group presentation. The project culminated in a summary lecture, where the results of all the groups were presented and compared.

“Liked the applied concept – more interesting”

“Good chance to practise techniques”

Student quotes

Industry Placement Interim Meeting Day 2012

“It is a big day for the Chemistry Department on Wednesday week 3 of the Spring Term. In 2012 this day fell on the 25th January and is when all our fourth year industrial placement students, together with their industrial supervisors, return to the Department to review their progress so far and to discuss future research plans for the second half of their placement year.

Some students may have just travelled up the road from Reckitt Benckiser in Hull, Cytec in Redcar or Unilever in Leeds, whilst some may have crossed the Pennines from AstraZeneca in Macclesfield, Bristol Myers Squibb in Birkenhead or MEL Chemicals in Manchester. Others may have let the train take the strain north from GSK in Stevenage, Lubrizol in Derbyshire, Infineum in Oxford, AkzoNobel in Slough or Cognis in Southampton, whilst some may have flown in from DSM and Voltea in Holland or Cognis in Southampton, whilst some may have let the train take the strain north from GSK in Stevenage, Lubrizol in Derbyshire, Infineum in Oxford, AkzoNobel in Slough or Cognis in Southampton, whilst some may have flown in from DSM and Voltea in Holland or Cognis in Switzerland.

There is always a buzz around the Department on this day as our forty placement students meet up with each other, a truly international gathering of friends, and share stories of how their placements are going and the exciting things they have done. The interim meetings are also a time to discuss research progress with their York and Industrial supervisors. Over a sandwich lunch, there is the opportunity to showcase the research of the Department to our industrial partners and for our Graduate School to advertise possible PhD research positions to our placement students.

As everyone winds their way home at the end of a busy day, students will feel much better prepared for, and less daunted by, their final assessment meetings in May. Indeed the increase in self-confidence of our placement students after just a few months on placement is a delight to experience.

Dr Brian Grievson, Industrial Liaison Officer

York Chemist wins Taekwondo Gold

Danielle Williams, an MChem Year 4 student scooped Gold Medal at the recent UK National Taekwondo Championships. She fought off stiff competition in the female senior section, successfully winning three bouts, to become UK National Champion. Not content with one medal, Danielle also won Bronze in the female third dan black-belt patterns section. Danielle has been training in taekwondo since the age of 10 and now is black belt third-dan. She regularly represents England in the World Taekwondo Championships.

“I’m delighted with my haul of medals and would like to thank the Chemistry Department for their continued support allowing me to balance my chemistry workload alongside the rigours of training. In particular, I would like to thank my personal supervisor, for his guidance.”

Yorkabroad update

This is a very exciting time for the MChem(Year Abroad) programme, which is proving to be an increasingly popular option for our undergraduate students. We have our biggest ever number of students out on MChem(Year Abroad) placements in 2011–12, with 12 students each spending the academic year in one of our partner universities around the world. This year we have students visiting Australia, Finland, Singapore, Germany, France and Spain. Next year looks set to continue the trend of increasing numbers on the MChem(Year Abroad) programme, with 15 students currently preparing for placements in 2012–13. The number of destinations available to our students is also increasing steadily. Placements at the University of Sydney and the University of Heidelberg have become available for the first time this year and both are already very popular. There are also exciting developments on the horizon, as we are involved in discussions with several potential exchange partners around the world that will hopefully allow us to send students to Canada in 2012–13 and potentially to India and Japan in the near future. Closer to home, we’re currently working on a series of web pages to inform undergraduates about the MChem(Year Abroad) programme and to help them prepare for their year abroad.
Additional £2m investment in the student experience

The Senior Management Group (SMG) at York has recently approved an additional £2 million package of measures as part of our continuous drive to improve the student experience. The investment includes:

- 24-hour opening of the Library
- A bundle of key texts and reading resources for incoming undergraduate students – both electronic and hardcopy
- Continuation of the Maths Skills Centre
- Digital recording of lectures (overheads and sound)
- Additional spend on refurbishing teaching spaces
- Additional academic staff to reduce Student–Staff Ratios
- Increased spending on student internships to support the employability agenda
- Free participation in college sport
- Additional spend on coaching of sports clubs through York Sport
- Night-time staffing in all eight colleges
- Additional staffing in the Open Door team
- Funding of an International Study Centre for York students.

www.york.ac.uk/communications/internal/briefing-notes/student-experience/

Come and visit us

Our visit days offer an excellent opportunity to find out about the University of York. Most importantly, you’ll be able to get a ‘feel’ for the University, which will help you decide whether or not York is somewhere you’d like to spend your university years.

2012 August Visit Days

During August we will be holding a series of Departmental Open Afternoons for prospective chemistry students. These will be held on 1, 7, 22 and 29 August.

The visit day will involve a free lunch for all guests, a tour of the department’s teaching and laboratory facilities, a campus tour, an opportunity to chat informally to members of staff, as well as opportunities to meet our current students and talk to them about what it is like to live and study at York.

Further details including how to book a place can be found on the York website: www.york.ac.uk/chemistry/undergraduate/visitdays/

RSC Meet the Uni

Last July, the Department once again contributed to the annual Meet the Universities event in London. The event, organised by the RSC, is designed to be informal, offering potential students (and often their parents too) the opportunity to question university representatives at length about their courses and what they offer to students. It is not designed to replace the need for a visit to a university’s own open day, but it can help students to narrow down their options in advance.

The next event will be held on Saturday 30 June 2012, at Burlington House, central London, and if you are able to attend, we look forward to speaking with you about our Chemistry degree courses.

Professor Dave’s Podcasts

Professor David Smith has produced a series of podcasts on amazing molecules, which can be viewed on youtube. For the latest podcast by ProfessorDaveatYork, “Transplantation – a personal story of the chemistry behind organ transplantation”, see: www.youtube.com/user/ProfessorDaveatYork?ob=0

2012 University Open Days

The university will be holding Open Days on Wednesday 4 July and Saturday 29 September 2012, for further details including booking: www.york.ac.uk/admin/uao/openday/

We have organised a number of talks in the Chemistry Department during the day and you will also have the opportunity to have a tour of our teaching and research laboratories. Members of the admissions team and current undergraduate Chemistry students will also be on hand.

Our Open Days in 2011 were extremely well attended and we received some excellent feedback from visiting students and their parents, including:

“Thank you, especially for the personalised pack – it was brilliant”

“Everything was well organised and planned – the tour guide was excellent”

Student visitors

These open days are primarily for prospective undergraduate students, but the Chemistry Department organises a Postgraduate Open Day in the Autumn Term (for further details contact: chem-ugrad@york.ac.uk).

Useful Links:

Student Finance
www.york.ac.uk/chemistry/schools/chemrev/
Chemistry Review, a magazine for post-16 chemists is commissioned and edited at York. If you would like to contribute a Chemistry-related article please contact Dr Annie Hodgson annie.hodgson@york.ac.uk

Admissions Enquiries please contact:

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