



The University of
Nottingham

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Chemistry@Nottingham

School of Chemistry Newsletter 2014

**Invaluable skills and
great career prospects!**



Chemistry student Georgina Waldron is isolating reaction products in the undergraduate laboratory.

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University life in the words of some of our current students

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Welcome to the School of Chemistry

We're delighted that you are considering chemistry at The University of Nottingham for your undergraduate degree. Here at Nottingham, we offer a wide-range of academic and extra-curricular activities to ensure that you make the most of your studies and time as a student. These opportunities take advantage of our links with international partner universities, with leading chemical companies and with schools, and our extensive, modern and award-winning teaching, learning and sports facilities across our campuses.

It's an exciting time to study chemistry at Nottingham. As you will see below we are investing in new developments and work is well underway on two new buildings that you will be able to make use of.

We've also introduced new modules that give students a taste of the business side of chemistry. On page 9 you can learn about one of our optional third-year modules that is taught in collaboration with GSK in which students explore the process of drug discovery, and on page 10 you can read about student experiences on our new Enterprise for Chemists module. There are plenty of other opportunities too, from study abroad and year-long industrial placements to paid summer internships in research groups (page 8).

The University also offers an extensive range of activities for you to get involved with from nearly every conceivable sport to an award-winning radio station (page 7). Our student society ChemSoc (page 12) works with the University's Students' Union to organise a whole host of chemistry-related events for our undergraduate and postgraduate students and staff. In addition to organising guest lectures and social events, ChemSoc runs a parenting scheme (page 10) that helps new students settle in and offers advice to students during their first year.

We are extremely proud of our students at The University of Nottingham and proud that we deliver global-thinking graduates that employers are looking for – the University is the number one choice among the UK's top graduate employers according to the latest study by High Fliers Research (page 5).

It has been a pleasure to welcome so many of you on our Open Days and UCAS Visit Days this year, and we hope to see you in September. If you have not visited our school or University previously then please contact us using the details on page 12; we'd be delighted to hear from you. In the meantime we wish you well for your up-coming examinations.

Professor Jonathan Hirst

Head of the School of Chemistry



@NottsChemistry



Professor Jonathan Hirst

New Engineering and Science Library

Building work is well underway on a new Engineering and Science Library that will benefit students in the School of Chemistry.

The new library, due for completion in summer 2015, is being built adjacent to the School of Chemistry. It will be a central hub for the science and engineering area of campus and will offer quiet individual study areas and group study desks, together with a new catering outlet.



Prestigious scholarship win for first-year students



Two of our first-year students have been awarded prestigious BP STEM scholarships that are aimed at building the skills and knowledge needed by the energy industry.

Each year BP offers 10 scholarships to students from The University of Nottingham, with each scholar receiving £5,000 per year for the duration of their degree.

In addition to providing financial support, the scholarships will give Matthew and Maria unique access to the energy industry. For example, they will be invited to join a range of activities such as the 'Scholars Welcome Day' in year one and a three-day conference in year two. Both events will enable them to build their understanding of the oil and gas industry and the opportunities that exist to apply their degree subject beyond graduation.

In addition, BP will run more informal events on campus and all BP STEM scholars will be invited to join BP as guests at high profile events such as the Ultimate Field Trip Grand Final.

Obviously delighted to have received these scholarships, Maria is looking forward to getting to know the industry and receiving support throughout her degree, and Matthew is thrilled to have been successful and cannot wait to work shadow a BP intern and to apply for the BP intern programme.

Matthew sums things up by saying "I've enjoyed the course so far". He adds: "The lecturers are always happy to help, should you have any questions about the course."



Matthew Bird has been awarded a BP STEM scholarship.

Periodic Table of Videos reaches 500

The School of Chemistry's Periodic Table of Videos is firmly established as an internet heavyweight – attracting nearly 400,000 YouTube subscribers in the past five years – and it recently celebrated this success in style with its 500th video.

The Periodic Table of Videos is the brainchild of unlikely internet sensation Nottingham's Professor Martyn Poliakoff and video journalist Brady Haran. The team, which features eight of the school's staff all of whom teach our undergraduates, has travelled the globe – including Everest basecamp and Sydney's Bondi beach – to fulfil its initial aim of making a video about each element in the Periodic Table. Having established a loyal fan base, they couldn't stop there and have now passed the 500 video mark.

The celebratory 500th video is a round-up of some of the series' very best moments since its launch in 2008. It features impressive explosions, some of Professor Poliakoff's classic lines, and lots and lots of gold bars.

One of the big reasons for the success of the videos is the "Professor" – as celebrated in the 500th video. But our taciturn technician Neil Barnes (the Chemical Stig) has also acquired a huge internet following.

Brady believes that it is chemistry itself which is key to the popularity of the videos. He said: "I think that even after 500 videos, the scientists are

still excited to be sharing their love of chemistry. I also think the videos try to be very honest and show what life's like in a real lab. You don't see that unvarnished depiction of science too often on TV or in videos.

We've also been lucky – with so many people making so many videos, you need a little bit of luck on YouTube."

Reaching the 500th video doesn't signal the end – there's lots more in the pipeline. You can tune into the Periodic Table of Videos at www.periodicvideos.com or www.youtube.com/periodicvideos



Professor Martyn Poliakoff



Neil Barnes, a star of Periodic Videos, with his favourite ion gauge rig.

Meet our students

Laura Finney / MSci Chemistry with a Year in Industry (fourth year)



"I was attracted to Nottingham for its reputation as a world class university, as well as its rankings in chemistry for teaching and research. I loved the campus from the moment I arrived and the feeling of community you get from being at a campus university.

The School of Chemistry is friendly and everyone seems to know everyone; from the first-year students all the way to the PhD students. The teaching is excellent and the range of opportunities available to you is incredible. I joined the year in industry course, so I spent my third year working. It helped me to gain some valuable experience which was related to my degree.

There was a lot of help available when I was applying for my placement and my personal tutor helped me to read through and improve my CV. I spent my year in the research and development department at Endeavour Speciality Chemicals

Ltd. Endeavour synthesise high impact flavour and fragrance molecules for food, so I had my own project aimed at finding a route to a coconut flavouring. One of the best things is that the year in industry positions are paid.

I thoroughly enjoyed my time at Endeavour. I made a lot of friends and have kept in contact with some since leaving. I had a supervisor at work who helped me day to day and had very regular contact with my academic supervisor back at university. I felt the experience had really benefitted me when I returned to Nottingham for my fourth-year project as I had already spent so much time in the lab.

Studying at Nottingham has been amazing, so much that I don't want to leave and I am currently applying for a PhD here too!"

"I am in my fourth and final year of my MSci Chemistry degree at Nottingham. Throughout the duration of my degree I have enjoyed being involved in various extracurricular activities within the department; ranging from events with ChemSoc to becoming a student course representative.

I really enjoyed the opportunity I was given to spend the summer break between third and fourth year working as part of Professor Steve Howdle's research group carrying out a 10-week project funded by BP. During my project I visited BP Pangbourne where I toured the site and gave a presentation of my work to a group of BP industrial researchers.

This trip was a really valuable experience because it gave me a real insight into how industry uses chemistry and, although it was a little bit nerve-racking, I actually really enjoyed it!

I am currently carrying out a really interesting fourth-year research project in the same lab working on making polymers using renewable materials, which is going very well.

The really interesting time I have spent in the lab over the past year has inspired me to apply for a PhD in the field of polymers and materials, a field that I hope to move into once I complete my undergraduate degree this year."

Amy Stimpson / MSci Chemistry (fourth year)



Jamie Cadge / MSci Medicinal and Biological Chemistry with an Assessed Year in Industry (second year)



"I originally chose Nottingham because of its fantastic campus and facilities, the quality of the course and teaching and, most importantly, the fantastic atmosphere of the school and friendliness of the staff.

From my time here so far, my expectations have certainly been exceeded. The medicinal and biological chemistry (MBC) degrees cover all of the same core chemistry as the chemistry degrees, so you don't feel you are missing out on anything. There is also a good selection of biology and biochemistry modules too, which I think is perfect because I have an interest in both those areas and how they interface to chemistry.

Help and support is always there when you need it – the staff are always an email or a knock on the door away and are happy to help. The number of people on the MBC degrees makes it really good for getting to know everybody – this year there are around 20 of us in the second year.

MBC also has its own society, joint with the biochemistry and biological chemistry (BBC) students (MBC/BBCSoc), which organises a range of events and socials. Joining this was another great way to meet other students in different years in MBC as well as those in BBC.

There are loads of events throughout the year including socials at the beginning of the year to meet with the new first-year students, a Christmas dinner, mini-golf and the annual Science Ball, which is a really fun night with students from all sciences and loads more.

I am also a student ambassador for the school, which is great for meeting students who are considering Nottingham for their degree, showing them around our school and campus and giving them a current student's perspective about life and study at Nottingham."

Chris Seymour / MSci Chemistry (fourth year)



"My time at Nottingham has been fantastic. I was a little worried I might not fit in; however this was not the case and I quickly found my feet.

The first thing I noticed about Nottingham was how closely the staff work with the students. From the first meeting with my personal tutor I felt that I was fully supported. My tutor introduced me to industrial contacts and companies which led to a sponsored summer project. I worked both in the School of Chemistry's research labs and at the sponsor company's site. This helped me realise my passion for research and the results were a huge success, significantly contributing to the industrial processing of PVC. As an added bonus I also now have my name on a patent!

The school works closely with many companies who offer placements and rewards for academic achievements. I was awarded a generous bursary for my performance in my second and third years by the agrochemical firm, Syngenta.

These reward schemes can help you meet future employers and look great on your CV. Building up contacts and gaining research experience will

help you get your foot in the door for competitive jobs after you graduate.

I'm currently working on my fourth-year research project. Being a part of a leading institution for chemical research gives you the opportunity to work on exciting and original projects. You are encouraged to develop your own ideas and approaches to solving problems where you learn valuable transferable skills be it for a career in academia, industry or otherwise.

My favourite part of studying at Nottingham is the diversity and being able to work with international students and staff. In my lab there are researchers from across the world all working together to synthesise bioactive molecules with applications in medicine and health. I've learnt more about so many different cultures inside the lab and hope to explore a part of it myself by pursuing a PhD in Japan after I graduate. A chemistry degree from Nottingham is invaluable and will take you anywhere you aspire to go."

"I really enjoyed chemistry at A level and I was convinced by a very persuasive teacher that, with a chemistry degree, the world would be my oyster. Now, coming to the end of my masters here at Nottingham, I have to admit he was definitely right!

The University of Nottingham was my first choice from the start – with a world class chemistry department and the opportunity to study abroad, as well as some of the happiest students in the country, there was no competition.

We do have more timetabled hours than a lot of other undergraduate degrees, but the combination of labs and lectures means that you're always doing something different. Labs have been my favourite part of the course since first year. Seeing the theory you learn come to life makes learning everything so much easier.

The staff are so approachable and the personal tutor I was assigned for the duration of my degree was always on hand to help, both academically and with the occasional emotional crisis!

I spent my international study year in Sydney, Australia and I had the best year possible. There is a wide range of international universities to

choose from and, wherever you spend your international year, Nottingham offers you the same support that you would receive back home.

All of the work I completed counted towards my final degree and with four months off over Christmas, I still had plenty of time to travel around Australia and New Zealand.

My master's year has been completely different to the rest of my degree and I've loved how independent I've been allowed to be. I've been lucky enough to have Professor Martyn Poliakoff as my supervisor and, for me, the major learning curve this year has been visualising the processes we do in the lab on an industrial scale.

In September I'll be starting the Finance Graduate Scheme with GlaxoSmithKline. For me it's the perfect mixture of a completely new challenge while staying in the science sector.

The University of Nottingham offers an incredible amount of support and resources to help you choose a career path after you've graduated and it's definitely thanks to their help that I've landed my dream job. I'm so grateful for all the opportunities I've had here and as I said, with a chemistry degree, the world really is your oyster."

Ailsa Suleman / MSci Chemistry with an International Study Year (fourth year)



Nottingham is the number one target for graduate employers

The UK's top employers have cited The University of Nottingham as the best university for finding graduate recruits.

According to the latest study by High Fliers Research, an independent market research company, the University is the number one choice among the UK's top graduate employers.

The report is based on research conducted during December 2013 with the UK's 100 leading graduate employers including BP, EDF Energy, the Civil Service, IBM, Goldman Sachs, PwC, Google and HSBC.

Graduate profiles

Name: Charlene Sodipo
 Course: MSci Chemistry with a Year in Industry;
 PhD in Chemistry
 Graduated: 2010 (MSci); 2014 (PhD)

Charlene studied for her undergraduate chemistry degree at Nottingham before staying on to do a PhD. During this time she did an internship with BP and has returned to work there since completing her studies.

"I initially decided to study at Nottingham because when I visited on my UCAS Visit Day I liked the campus and the School of Chemistry was very welcoming. I'm really happy with the choice that I made; I found the school to be a very supportive environment with great staff.

For my undergraduate degree I took the MSci Chemistry with a Year in Industry course. I worked at 3M Health Care on the development of asthma inhalers for my industrial placement year. The teaching in chemistry is great because it is so varied and includes a mixture of lectures, lab work and tutorials. In the final year you do a research project in one of the research groups in the school which is great because you get to use all the skills that you've developed over the first three years.

Having enjoyed my studies, I decided to stay in Nottingham for a PhD, which I completed under the supervision of Professor Martin Schröder and Dr Jonathan McMaster. My research was on the development of functional analogues of the [NiFe] hydrogenases for hydrogen production and was funded, and my living costs supported, by the Doctoral Training Centre in Hydrogen, Fuel Cells and their Applications.

This meant that alongside my research I did masters-level courses in business, economics and project management, as well as topics relating to the energy industry and hydrogen technology. I was also able to complete an internship with BP during my PhD.

Alongside studying there are lots of things to do across the University and city. The University has many clubs and societies; I was a member of the university gospel choir, which was a lot of fun and a good way to make friends. Nottingham is also a great city for shopping and eating out.

Since completing my PhD I have been working at BP in the Upstream Segment in Finance. This involves being responsible for the financial aspects of efforts to find, develop and produce oil and gas for energy. My background in chemistry has enabled me to understand the technical side of the business and now I am enjoying experiencing the commercial side of things.

In the future, I would like to combine all of the training and experience I have gained in chemistry, energy and finance to progress to a role in managing energy projects. I feel that my degrees at Nottingham have given me a wide set of skills which have provided a great foundation to support the development of my career."



Name: Anna Douglas
 Course: MSci Chemistry
 Graduated: 2013

Anna studied chemistry at Nottingham and is now working at Boots as a formulator for one of their skincare ranges.

"Throughout my four years at Nottingham studying chemistry, I had the opportunity to learn about a wide range of chemistry related topics and my research project during my fourth year was one of my favourite parts of my course. Being able to immerse yourself in innovative research is brilliant and excellent preparation for a career in chemistry!

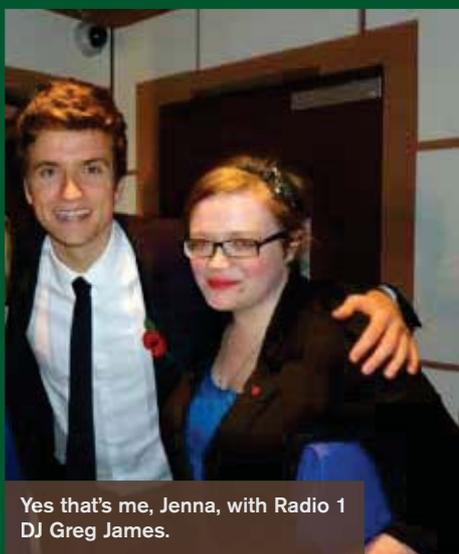
One of the best modules I did was Enterprise for Chemists in my fourth year. Throughout this course we learnt about different aspects of chemistry related business from finance and patents to all you need to know to set up your own small business. We had a lot of external lecturers from different companies come into the school to teach us. Having the opportunity to meet and talk with these professionals was invaluable.

This was something that happened often during my degree and I always felt like our lecturers did their best to help you connect with any relevant experts they knew. I felt very supported while looking for jobs towards the end of my degree and that made such a difference to what could have been a daunting task.

During one of my Enterprise for Chemists lectures, the Head of Formulation and the Head of New Product Development from Boots were teaching us. This was exactly the area of industry I was interested in. As a result of that lecture I had a tour around Boots which led to an interview, and I have now been working there for six months as a formulator for No7 skincare products.

I often use my skills gained during my degree, whether it be working safely in the lab or using my specific chemical knowledge to solve an instability issue. Formulation is a fun and rewarding application of chemistry, and I owe a lot to the School of Chemistry in getting me to this point in my career."

Science – from the lecture theatre to the radio



Yes that's me, Jenna, with Radio 1 DJ Greg James.



In the studio at University Radio Nottingham.

From University Radio Nottingham to the Breakfast Show on Radio 1, fourth-year chemistry student Jenna Flye talks about her role as a presenter on The Science Show, broadcast by our award-winning student station.

"At the beginning of my second year, wanting to do something a little different, I decided to join the University's student-run radio station, University Radio Nottingham (URN). I started off with a breakfast slot early on a Saturday morning with fellow chemist Chloe. By the end of that year, I had joined The Science Show and had had my voice broadcast to the nation via Chris Moyles' Breakfast Show on Radio 1.

So what is The Science Show? It's a radio show produced and run by students where we invite lecturers and PhD students to come on the show and talk about their research. As anyone can listen either live or through podcasts, it's important to explain sometimes complex research areas in a way that is accessible to everyone listening. So if you take some time to check out the podcasts, you may find The Elemental Dating Service pop up now and then which provides the background to some of the concepts that are being discussed.

It's not just limited to lecturers and PhD students; we have special shows with guests such as Dallas Campbell from the BBC's 'Bang Goes The Theory', a mental health special and a show about Nikola Tesla. We also have videos of experiments that students can perform at home using household objects so why not get stuck in? Our Vortex Canon video went viral and currently stands at 1,116,565 views.

Like with most things, the radio stations from across the country compete to prove they are the best. Not only has URN won best station at the Student Radio Awards for the past four years, The Science Show (only in its third year) has already won bronze and silver in the Best Journalistic Programming category in 2012 and 2013, respectively.

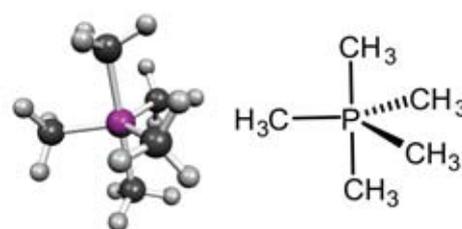
Being part of The Science Show has allowed me to use the skills and knowledge I have gained throughout my time here at University and has helped me build my communication skills."

You can tune into URN now at urn1350.net and visit The Science Show's page at urn1350.net/user/110



Summer research opportunities

Research groups in the School of Chemistry offer eight- to ten-week summer projects to enable second- and third-year students to experience research at the cutting edge of chemistry. Third-year student Aimie Garces describes her experience last summer.



Above: The structure of pentamethylcarborane, $P(CH_3)_5$.

Left: Students working in one of the chemistry research labs.

"I undertook a summer project between my second and third year where I worked on a ten-week project that was based around phosphorus chemistry. Phosphorus is an extremely important element that impacts on areas as diverse as organic synthesis, agrochemicals, fine-chemicals, and materials chemistry.

I investigated the synthesis of a fundamentally important phosphorus-containing molecule called a carbophosphorane that has eluded researchers for over fifty years. The molecule is highly sensitive to oxygen and moisture making the synthesis challenging. However, if the synthesis can be figured out then it will open up access to a new family of phosphoranes that have applications in catalysis research and chemical synthesis.

The project was interdisciplinary between the organic and inorganic departments in the School of Chemistry, and I worked in the research groups led by Dr Ross Denton and Professor Stephen Liddle. I received an Engineering and Physical Sciences Research Council (EPSRC) Vacation Bursary to support my project. These bursaries provide funding for undergraduate students to gain practical first-hand experience of research in a UK university to help them consider a research career.

I worked closely with Ross in developing the proposal and it was a real thrill once we knew that we had been successful in our application.

Throughout my project I worked with PhD students and postdoctoral researchers in the laboratory and I experienced synthetic methods that I would not normally have used at this stage of my degree. For example, I learned very useful techniques that are vital for handling air and moisture sensitive compounds; my synthetic and analytical skills have certainly been extended!

The results of my project have led to a new PhD research project within the Denton and Liddle research groups so it's great that the project that I started will continue. My research experience has definitely benefited me greatly in preparation for my fourth-year research project, and has given me a clear view of where I want to head after completing my degree.

"Aimie's project has underpinned a new joint PhD project between our research groups that is now up and running. This shows how our students make real and important contributions to research groups and, at the same time, gain first hand practical experience of carrying out cutting-edge research."

Dr Ross Denton

Chemistry and medicines' discovery at Nottingham

Nottingham chemistry students now have the unique opportunity to work with a world-leading pharmaceutical company in an optional third-year module to learn about medicinal chemistry.



Above: The front cover of the research paper in Drug Discovery Today where experimental results from the drug discovery module have been published.

Left: Sir Andrew Witty CEO of GSK with third- and fourth-year chemistry students who are taking the module.

The module, 'Drug Discovery: the development of new medicines', is the first of its kind in the UK. It is sponsored by GlaxoSmithKline (GSK) and is taught in partnership with researchers from the leading pharmaceutical company. The module enables students to explore the process of designing new molecules and to consider the factors that guide the choice of compound for use as a potential medicine.

In the arena of human health, chemists have been amazingly successful at discovering medicines to lower cholesterol, manage high blood pressure and even difficult infections such as HIV. However, we are still searching for treatments for Alzheimer's and Parkinson's diseases, and for many types of cancer. In addition, some bacteria are becoming resistant to current medicines so the development of new antibiotics is also necessary.

The drug discovery module introduces chemistry students to the skills in medicinal chemistry that the pharmaceutical industry requires to solve these health problems. Students explore the vital role of chemistry in drug discovery, including the ways chemical structure influences the molecular properties, biological activity, and the toxicity of drugs. Students also undertake a series of practical workshops devoted to the design of an anti-asthma drug, which are directly linked to the programme.

In these workshops, students make the compounds that they have designed themselves by using industry-standard techniques, and receive biological test data from GSK before writing a final report to explain their findings, just as they would do in industry.

Students interact regularly and extensively with researchers from GSK, visit the GSK laboratories in Stevenage, and develop skills in communication and team-working, which are much sought after in industry. The module is extremely successful; the results generated have recently been published in the journal Drug Discovery Today.

Research in medicinal chemistry doesn't stop here. In collaboration with GSK, fourth-year students are also developing new drugs for the treatment of a fatal lung disease for their research project. This challenging research provides students with advanced technical training, valuable insights into the workings of industry and possible pathways following graduation. These unique collaborations will ensure that Nottingham graduates will continue to contribute to Britain's unique record in innovation in medicines discovery in the future.

"I really enjoyed how the module combined everything we had learnt in lectures to allow us to see and be part of the drug discovery process. I believe it gave a real insight into medicinal chemistry/pharmaceutical industry."

Anonymous quote from 'Student Evaluation of Module' feedback form.

"We've invested in Nottingham because it's one of the best universities in Britain, in fact the world, from a chemistry point of view... the majority of our chemists who we hire into GSK come from Nottingham so we have a long history there."

Sir Andrew Witty
CEO, GlaxoSmithKline

ChemSoc Parenting Scheme

The ChemSoc Parenting Scheme helps first-year students get the most out of their first weeks at University and provides a network for them throughout their first year. Third-year student Alison Taylor explains how the scheme works and describes some of the activities in which students can get involved.

The Parenting Scheme is run by ChemSoc and is designed to support first-year chemistry students through their first few weeks of university and beyond. Current second, third or fourth year students in the school volunteer to take part in the scheme as 'parents' and one or two parents look after each first-year tutorial group from the first day of term.

On the first day of term each group goes for lunch and gets to know one another, before touring the school and the science areas and being introduced to their personal tutor. Each group meets with their ChemSoc parent regularly, especially during the first few weeks of term, to have those important questions about student life and study answered, and for ChemSoc parents to ensure that everything is going smoothly. Above all, the ChemSoc parents are friendly faces that can answer most questions that the new students may have at the beginning of their time at Nottingham.

The ChemSoc parents also host a number of informal social events throughout the year that provide opportunities for first-year students to get the very best tips from second, third or fourth year students. Events vary from coffee mornings, where first year's can learn about house-hunting, examinations and revision techniques, to our ever popular charity quizzes that are always well attended and that raise money for a local charity.

The ChemSoc Parenting Scheme is great for our first-year students who gain a student-led support network from day one. It's also great for the ChemSoc parents as they can help other students and develop their confidence and communication skills.

"In my experience as a fresher, the Parenting Scheme is very well organised and is incredibly useful as it provides support for any questions about first-hand experiences such as timetabling, coursework and exams, even advice on modules and house-hunting!"

Ronan Considine
MSci Chemistry with a Year in Industry (first year)



A parenting coffee morning where topics included revision techniques and house-hunting.



A ChemSoc 'parent' helping a first-year student.

chemSoc

A diamond in the rough

Fourth-year chemistry students Hannah Blake and Filipa Carvalho are currently taking an optional module, Enterprise for Chemists, in which students explore the factors that lead to successful commercial innovation in chemistry. Earlier in the year they pitched their ideas, here's how they got on.

"As part of our Enterprise for Chemists module we set out to find a 'diamond in the rough'. The teams had at their disposal a limited supply of short articles describing a scientific idea. Our objective was to find the winning idea, our diamond, polish it and sell it for lots of money during a Dragon's Den-style presentation. To find our diamond we battled each other, choosing an article each and trying to survive the onslaught of questions posed by our teammates. Will anyone buy it? If so, who? How much will it cost? Will you make a profit and survive? Eventually only one idea was standing, our diamond was a medical knife that has chemical sensors to identify and distinguish between cancerous and non-cancerous cells.

We then created the background for our idea – a fictional multinational chemical company that would be launching our product. We were then ready to finish polishing our diamond by deciding everything from our product's patents and regulation compliances, to market strategy, costs, margins and profits (and world domination!).

After endless reviewing and polishing of our diamond, we were so hyped and excited about our knife idea that we rocked our presentation; the Dragons were impressed and gave us the go ahead. Besides being awesome, we learned lots about what you need to consider in the world of business. Money and diamonds of course!"



Students working on the Enterprise for Chemist's module.

Teaching award

Recognition for innovation in learning technologies

Dr Rossana Wright has developed a range of approaches to enhance students' learning in chemistry for which she won the 2013 Lord Dearing Award for Excellence in Teaching and Learning. Rossana describes some of the e-learning resources that have been developed within the school.

"We have made it so that our physical chemistry teaching manuals and pre-lab exercises are now available online, all the time, from anywhere. For practical techniques that are not easy to explain in words, we have created video animations that give students a real head start on practical techniques, before they even arrive in the laboratory.

These new resources have been integrated with electronic marking and feedback by staff for all laboratory reports submitted by students. As soon as the reports are marked, students are able to see the marked work online at any time and as many times as they wish. Students are also provided with detailed annotated feedback, provided on the electronic files, together with

clear descriptions of how marks are awarded, which really helps them to improve their practical and report writing skills.

We have enhanced the teaching support for some of our modules in the school with the use of screencasts (audio files coupled with a video stream) that students can access via our online learning environment both on- and off-campus. Many areas of chemistry are highly visual, so there are huge advantages in using a wide range of media resources to support explanations of some topics (for example, the 3D representation of structures, animations and molecular simulations).

Our students have also found it valuable to have clips showing step by step examples and audio on how a problem is solved."

Dr Wright is also developing bespoke e-learning resources to support a range of student abilities in areas such as mathematics and information technology. She is developing a wide range of additional online resources that enables our students to 'pick and mix' materials to better suit their particular learning requirements.



Dr Wright receiving the award at the School of Chemistry's graduation ceremony 2013.

ChemSoc – the society that builds bonds between chemists

From your very first day here at Nottingham, you'll be welcomed into ChemSoc; a society run by friendly, enthusiastic chemistry students, for chemistry students. Being a member of ChemSoc will provide you with a whole range of opportunities and activities from social events to industrial visits, and from sports to academic events. It's a great way to get involved in activities across the school and University. Here's what we've been up to over the past few months...

The Science Ball

We organise The Science Ball which is held in March of each year at a venue in Nottingham. It's a great way to get all of our colleagues across the sciences together.

Sport

ChemSoc has a range of teams competing in the University's intramural sport leagues. All teams having a strong turnout and the commitment of eager chemistry participants is clear to see.

The mixed hockey team holds a position at the top of the leader board and shows no signs of slowing down. Last year the female netball team secured an end of year promotion into the first league and the team is continuing to go from strength to strength. Our vigorous all-weather training programme has clearly paid dividends! The male football and rugby teams are also on the rise too and both have progressed well.

ChemSoc Sports Day

We hold our ChemSoc Sports Day in the summer term where members can demonstrate their prowess with the egg and spoon, hop along in the three-legged race, jump in the sack race, sprint in the relay and participate in a whole range of school sports day inspired events all in aid of charity. The proceeds of the last event went to The Nottinghamshire Hospice.

Socials

ChemSoc organises a variety of socials throughout the year. Our Pool Social was great, especially due to the involvement of the postgraduate students in the school who fielded some teams too.

"With over 300 student-run societies and sports clubs on offer from our Students' Union, there is plenty for students to immerse themselves in during their time as a student in the School of Chemistry.

With the majority of daily activities taking place on University Park, it's very easy for students to get involved and explore new opportunities, whether it's getting involved with fundraising or playing sport for their respective halls.

ChemSoc in particular has been hugely effective in terms of providing socials and opportunities for students to meet and introduce themselves to one another, as well as providing welfare support and a parenting scheme so students always have someone to turn to."

Anil Parmar

MSci Chemistry (fourth year)
Students' Union Executive Committee, 2012-13

Find out more about ChemSoc at:
www.su.nottingham.ac.uk/societies/society/ChemSoc



@ChemsocUoN



ChemsocUoN



Our popular Pool Social.



Egg and spoon fun at sports day.



Our intramural rugby team.

For further information please contact the Chemistry Admissions Team:

School of Chemistry
The University of Nottingham, University Park,
Nottingham, NG7 2RD

t: +44 (0)115 951 3259
e: chem.admissions@nottingham.ac.uk
w: www.nottingham.ac.uk/chemistry

Undergraduate course information is available at
www.nottingham.ac.uk/ugstudy

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