



# FRINGE BENEFITS

Visitors to the first Imperial Fringe take things to heart as they get to grips with our research ... ❖ **CENTRE PAGES**



**£35 MILLION  
AWARD FOR  
IMPERIAL**  
HEFCE support  
for Imperial  
West  
**PAGE 3**



**FORWARD  
THINKING**  
Dr Simon  
Schultz on the  
value of looking  
to the future  
**PAGE 7**



**LONDON  
BIKEATHON**  
Professor Dazzi  
on cycling 95  
miles with his  
patient  
**PAGE 12**



EDITOR'S CORNER

## Pregnant pause

As a number of you might know this is my final issue of *Reporter* before I go on maternity leave. 2012 has definitely been an eventful time for me as Editor – in the future, **I'll be able to tell my daughter** that this was the year I interviewed the head of NASA, grabbed a quote from an Olympic triathlete who went on to win a gold medal the next day and got to grips with the ins and outs of synthetic biology. As always, **I've loved meeting so many of you** to hear about your adventures both in and out of College. I will be leaving you in the very **capable hands of Andrew Czyzewski**, whom you can get to know a little better in the *Meet the Reader* column on page 16 of this issue. Please do keep sending in all your story suggestions to him as they help make *Reporter* what it is – and see you when I return!

EMILY ROSS-JOANNOU, EDITOR

*Cover image: Leon Vanstone (Aeronautics) freezing roses with liquid nitrogen at the first Imperial Fringe event, which took place on 25 October in the Main Entrance of the South Kensington Campus. See centre pages for the full feature.*

Reporter is published every three weeks during term time in print and online. The next publication day is 22 November.

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## Researchers unite to open up about animal research

Imperial has joined medical charities, research funders, the pharmaceutical industry and other universities in signing a declaration for greater openness on animal research following signs of a decrease in public support for animal research.

The results of a recent Ipsos Mori poll commissioned by the government reveal a 10 percentage point decrease in public support for scientific research involving animals since 2010.

Although levels of support

remain high overall, with 66 per cent of people supporting animal experimentation for medical research, 40 per cent want to know more before they form a firm opinion.

Professor Maggie Dallman, Principal of the Faculty of Natural Sciences, said: "Animal research is a small but vital part of scientific and medical research in the UK. Terrorist activity by animal extremists in the past has led some scientists to fear what will happen to them if they speak publicly about their work.



"I hope this declaration will give organisations and scientists the confidence to speak out with the support of the wider research community."

The declaration was signed by more than 40 research organisations, including 15 universities.

—KERRY NOBLE, COMMUNICATIONS AND DEVELOPMENT

## Kneebone awarded Wellcome Trust fellowship for public engagement

Roger Kneebone, Professor of Surgical Education (Surgery and Cancer), has been awarded a prestigious fellowship from the Wellcome Trust to support his work promoting public engagement with science and medicine.

The Wellcome Trust Engagement Fellowships champion and develop upcoming stars in public engagement with science. The scheme, now in its second year, provides support for science communicators with a strong track record of delivering high-quality public engagement and aims to propel them to become leaders in their field.

Roger Kneebone plans to use his fellowship to build on his passion for education, and for communicating and exploring new ideas. In particular, he will look at how his field of surgery overlaps with the worlds of art, performance and craftsmanship.



During his fellowship, Professor Kneebone will build links between the College's world-leading biomedical research and a wide range of public engagement events and venues, creating imaginative ways for scientists and the public to share ideas and influence one another's thinking.

Professor Kneebone said: "This Wellcome Trust Engagement Fellowship is a fantastic opportunity to explore my ideas in a wide range of settings. It will support me in developing as a leader in the field, within the creative setting of the Wellcome Trust."

The Engagement Fellowships are part of the Wellcome Trust's strategic vision of working with researchers and the creative industries to help societies explore and become involved with biomedical science.

—ADAPTED FROM A NEWS RELEASE BY THE WELLCOME TRUST

## Imperial College London

### A question of calibre

Let your team members shine with a new development programme designed to support and encourage staff with disabilities.

The Calibre Programme seeks to empower and increase the confidence of disabled staff in organisations. Skills acquired will be useful for people who may be thinking about career development or leadership roles.

To find out more visit: <http://bit.ly/calibre12>

or contact:  
Leyla Okhai  
[l.okhai@imperial.ac.uk](mailto:l.okhai@imperial.ac.uk)





## College receives £35 million to support Imperial West plans

Imperial has been awarded £35 million to support the development of its new Imperial West technology campus in west London. The award, funded by the Higher Education Funding Council for England (HEFCE) through the UK Research Partnership Investment Fund (UKRPIF), will contribute to the development of the campus' £150 million research and translation hub.

The 42,000-m<sup>2</sup> hub will be the focus of the seven-acre technology campus on the former BBC Woodlands site, alongside the A40. It will deliver world class

education, research and translation activities, and foster partnerships with global stakeholders from business, industry, higher education and the NHS.

Incorporating 50 new units for spin-out companies, the hub will serve the needs of London's enterprise community, expanding support for innovation drawn from Imperial and other leading universities. With an emphasis on the commercialisation of research to bring benefits to society

**"The opportunities presented by the Imperial West technology campus are tremendously exciting"**

and the economy, the site is expected to attract innovation businesses to co-locate and could offer a base in London to world class higher education institutions from outside the UK. The hub will also provide high specification, multidisciplinary research space for 1,000 scientists and engineers investigating next generation materials.

Sir Keith O'Nions, President & Rector, said: "The opportunities presented by the Imperial West technology campus are tremendously exciting. It will bring together world class teaching and research with our cutting edge translation activities, working closely with business, the NHS and industry. I

am delighted that HEFCE recognised the huge potential with such a substantial award."

Alongside the award from HEFCE – one of

the largest awarded from the UKRPIF, the new £150 million research and translation hub will be funded by a £90 million contribution from investor Voreda, with the remainder funded by the College.

—SIMON WATTS, COMMUNICATIONS AND DEVELOPMENT

## Imperial celebrates on Commemoration Day 2012

On 24 October more than 2,400 Imperial undergraduates gathered at the Royal Albert Hall to receive their degrees from the College's President & Rector, Sir Keith O'Nions.



Receiving Student Awards for Outstanding Achievement on the day were Kadhim

Shubber (Physics), Jason Parmar and Marco Crouch (both Chemistry), Nicolas Massie (Medicine), and Charlotte Ivison (Life Sciences), who have all been nominated by senior members of College staff for their contribution to student welfare, the College's outreach work, and charity.

Imperial also honoured five members of staff who received Rector's Medals at the ceremony. Professor Alan Spivey (Chemistry) and Dr Emma McCoy (Mathematics) both received Rector's Medals for Outstanding Contribution to Teaching Excellence.

Professor Alison McGregor (Surgery and Cancer) received a Rector's Medal for Excellence in Pastoral Care.

A Rector's Medal for Excellence in Supporting the Student Experience went to Dr Michael Barrett (Medicine), whilst Professor Adrian Sutton (Physics) received the Rector's Medal for Outstanding Contribution to Teaching Excellence.

Lord Kerr of Kinlochard, who served Imperial as Chairman of the Court and Council from 2005–11, was awarded an honorary Fellowship, and alumnus Jonathan Spatz received an Imperial College Medal for his work with the Imperial College Foundation – a non-profit corporation based in Georgia, USA.

—ANTHONY WILKINSON, COMMUNICATIONS AND DEVELOPMENT

### in brief

#### New Trust appointment



Imperial College Healthcare NHS Trust has appointed Professor Sir Anthony Newman Taylor to its board as a non-executive director. Sir Anthony, who served as Faculty Principal

from 2010–12, following two years as Deputy Principal, will also chair the Trust's Quality and Safety Committee. Commenting on the appointment, he said: "I am delighted to be joining the board of the Trust at this important time both for the Trust and the AHSC."

#### Spin-outs give back

DNA Electronics and Toumaz Limited, two companies founded by Professor Chris Toumazou (EEE), have announced they will be awarding scholarships to students from overseas who want to study for a MEng degree in the Department of Bioengineering. The recipients will be chosen later in the year. Professor Toumazou said: "I am delighted that DNA Electronics and Toumaz are able to support students in this way, which will enable young people from overseas to take advantage of the excellent education and learning experience that the College can provide."

#### Energy Minister visit

John Hayes MP, the newly appointed Minister for Energy, came to visit Imperial on 22 October to talk to 500 academics and private organisations about the future of energy policy in the UK. Mr Hayes' speech focused on how the UK must invest in areas like carbon capture and storage to meet its ambitious energy targets. President & Rector Sir Keith O'Nions also gave the Minister a tour of the Department of Chemical Engineering's carbon capture pilot plant.

#### Imperial AHSC submits views on improving healthcare

Imperial College London and Imperial College Healthcare NHS Trust have produced a joint response to the NHS consultation on the future of healthcare services in north west London. The shared views of the College and Trust will be considered along with those of other stakeholders and the public as part of the Shaping a Healthier Future programme, which aims to improve the way that healthcare is delivered to two million people in the region.

<http://bit.ly/healthierfuture>

## media mentions

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT

That is  
what SHE  
said, LOL

?



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### HRT gets the all clear

DAILY MAIL ▶ 9.10.2012



Taking hormone replacement therapy (HRT) is safe and can protect against heart disease without increasing cancer

risks, reported the *Daily Mail*. Researchers found that women who take HRT at the start of the menopause for 10 years can reduce their risk of heart failure, heart attacks and premature death. Most importantly, the study revealed that there was no extra risk of cancer, strokes or blood clots, even 16 years after starting HRT. Dr John Stevenson (NHLI) said UK authorities should update guidance that says HRT should be offered only to women with serious menopausal symptoms for the shortest time possible. "The strength of the study is its long duration, and this shows that HRT, started around the menopause, is really pretty safe indeed, even for longer-term use," he said.



### Predicting humour is difficult, researcher warns

NEW SCIENTIST ▶ 11.10.2012

Text prediction systems in phones, search engines and word processors often get things wrong, sometimes hilariously. A team of researchers in Finland want to harness these predictive text errors to liven up the way humans interact with computer software. The researchers believe that they can write programs that mimic this unintentional humour. However, Michael Cook (Computing) warned that making computers funny can be fraught with difficulty. "With research on humour, there is always that danger that by analysing it too closely it loses some magic," he commented to *New Scientist*.

### Lion study THE INDEPENDENT ▶ 11.10.2012

A pride of captive lions descended from the private menagerie of the Emperor of Ethiopia, Haile Selassie, is genetically distinct from all other lions in Africa, reported *The Independent*. The lions have a distinctive dark mane and are slightly smaller and more compact than other African lions. It is thought that there may be less than a few hundred Ethiopian lions living in the wild, and scientists are urging that their unique genetic makeup should be preserved by a captive-breeding programme. "Every effort should

be made to preserve as much of the lion's genetic heritage as possible," said Susann Bruche (NHLI).

### DNA test today keeps wrinkles at bay

EVENING STANDARD ▶ 17.10.2012

A London beauty salon has become the first in the world to try a new 30-minute DNA test that promises to match cosmetic products to a person's genetic make-up, reported the *Evening Standard*. The simple saliva test, developed by Imperial researchers, analyses a customer's DNA to determine what active ingredients in different beauty lotions will work best for each person. "Skin has so many genetic mutations," said Professor Chris Toumazou (Electrical and Electronic Engineering) who invented the technology. "It's very exciting to be able to bring this technology direct to consumers and show them how it will work."

## awards and honours

### MEDICINE

#### Buckle honoured for his dedication to health and safety

Professor Peter Buckle, Senior Research Fellow (Surgery and Cancer), has received one of the Royal Society for the Prevention of Accidents' Distinguished Service Awards. The safety charity's awards are reserved for individuals who make exceptional contributions to society through their work in health and safety. Professor Buckle is an ergonomics expert who is renowned for his abilities to promote collaboration

between different professional and academic disciplines and organisations.

### MEDICINE

#### Customer First

The Faculty Education Office in the Faculty of Medicine has achieved the Customer First accreditation – the national standard for customer service. Chris Harris, Quality Assurance and Enhancement Manager, said: "There has been a whole-office commitment to improving our standard of service to students over the last 12 months and there are now customer champions in all of our campus offices. We are delighted this work has been recognised by the Customer First assessor."



### MEDICINE

#### Barnes elected to Academy of Europe

Professor Peter Barnes (NHLI), pictured, has been elected a Member of the Academia Europaea or the Academy of Europe, whose members include leading European experts from the physical sciences and technology, biological sciences and medicine, mathematics, the letters and humanities, social and cognitive sciences, economics

and the law. Professor Barnes was selected in recognition of his contributions to international research and teaching in respiratory medicine.

### NATURAL SCIENCES

#### Scrapheap challenge

An undergraduate from the Department of Electrical and Electronic Engineering has come third in the Best Electronic Engineering Student category in the Science, Engineering and Technology Student of the Year Awards. Jonathan Hazell was recognised, at a ceremony at Kensington Town Hall on 26 September 2012, for a working radar system that he developed from a heap of hi-tech junk.



## Increase in hospital admissions for throat infections

The number of children admitted to hospital in England for acute throat infections increased by 76 per cent between 1999 and 2010, according to research published on 19 October in *Archives of Disease in Childhood*.

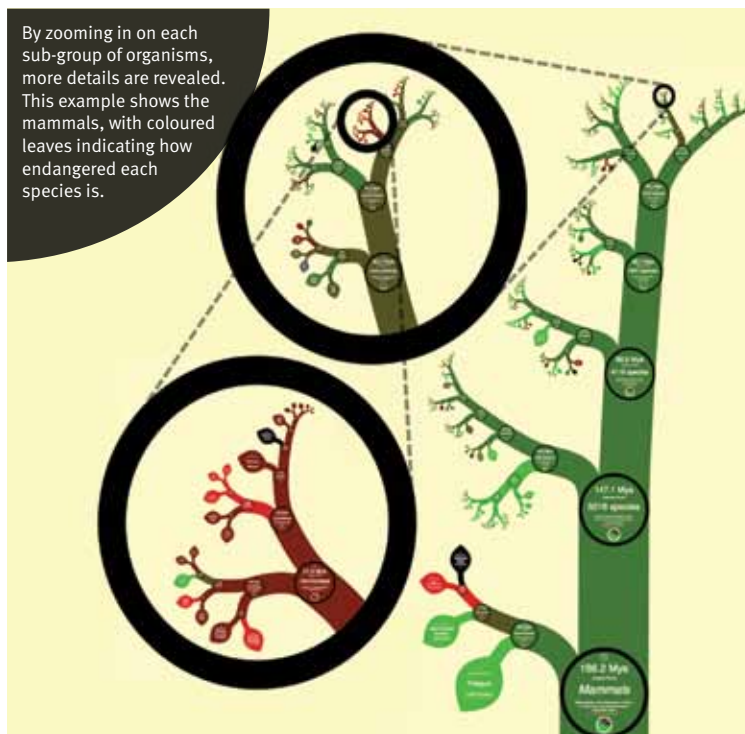
Acute throat infection (ATI), which includes acute tonsillitis and acute pharyngitis, is one of the most common reasons for consulting a GP. The majority of ATIs are self-limiting and can be managed at home or by the GP, but a small proportion may require hospital admission.

The research, which was funded by a fellowship from the National Institute for Health Research, showed that the number of children admitted to hospital with ATI increased from 12,283 in 1999 to 22,071 in 2010 – a rise in admission rate of 76 per cent. Short hospital stays, lasting less than two days, increased by 115 per cent over the decade, and accounted for the majority of admissions.

Dr Elizabeth Koshy (Public Health), who led the study, said: “It is very concerning that there has been a major increase in hospital admissions for children with acute throat infections, particularly among those aged under five. We think this is likely to be due to problems at the primary and secondary care interface. Our findings relating to short hospital stays suggest that many of the children admitted with acute throat infections could have been effectively managed in the community. Our study highlights the need to urgently address the issue of healthcare access, with improved models of integrated care within primary and secondary care, to avoid potentially unnecessary hospital admissions for relatively minor infections in the future.”

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

By zooming in on each sub-group of organisms, more details are revealed. This example shows the mammals, with coloured leaves indicating how endangered each species is.



## Tree of life branches out

Exploring the evolutionary tree of life is now as easy as navigating an online map, thanks to a new interactive website called OneZoom™, which went live on 16 October.

Since Darwin, biologists have struggled to draw a tree showing

important details about the many known living organisms and how they are related to one another. Even relatively simple trees have been extremely challenging to visualise without huge sheets of paper or multiple computer screens.

Now OneZoom, which was partly inspired by the zooming technology of mapping software such as Google Maps, makes it possible to start with a broad view of life on Earth, then zoom in on any point to explore incrementally smaller categories of life, using intuitive mouse actions.

Dr James Rosindell (Life Sciences) developed OneZoom in collaboration with Dr Luke Harmon from the University of Idaho. “OneZoom gives you a natural way to explore large amounts of complex information like the tree of life,” he explained. “It’s intuitive because it’s similar to the way we explore the real world; by moving towards interesting objects to see them in more detail.”

“We’re still looking at data on the screen in ways that can easily be printed on paper and that’s a serious visual constraint. But it’s no longer necessary to restrict ourselves because we mostly view the information on screen only. OneZoom embraces this by laying out the data in an exciting, interactive way that could not be captured on printed sheets,” Dr Rosindell said.

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## First footage of West African seahorse



Researchers have released the first-ever footage of a little-studied seahorse species with video captured off the coast of Senegal by MSc in Conservation

Science student, Kate West (Life Sciences).

Ms West captured the footage whilst travelling on a Senegalese fishing boat. She was filming seahorses in the wild, and speaking to local people about their interactions with these unusual species of fish, as part of an investigation into West Africa’s burgeoning seahorse trade.

The study is being carried out by scientists at the Zoological Society of London’s (ZSL) Project Seahorse, Imperial College London, and the University of British Columbia, Canada.

Research to date indicates that trade in West

African seahorses has risen dramatically over the past few years, with exports of about 600,000 annually.

They are used primarily in traditional Chinese medicine.

“The West African seahorse is one of two native species caught locally for trade around the world,” Ms West explains. “But it’s shocking that so little is known about this fish when more than a tonne of them are officially exported each year. Poor diving conditions and underwater visibility make it more difficult to conduct field studies off the West African coast than in other areas where seahorses are found. No research has been done on this species, and nothing is known about its habitat, life cycle or population status, which is why this study is so vital for their conservation.”

“Our findings will be shared with the Senegalese and other governments, so they can meet their obligations to ensure that the seahorse trade is sustainable,” adds Chris Ransom, West and North Africa Programme Manager at ZSL.

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## Test developed to detect early-stage diseases with naked eye

Scientists from Imperial have developed a prototype ultra-sensitive sensor that would enable doctors to detect the early stages of diseases and viruses with the naked eye, according to research published in the journal *Nature Nanotechnology* on 25 October.

The team, from the Departments of Bioengineering and Materials, report that their visual sensor technology is 10 times more sensitive than the current gold standard methods for measuring biomarkers. These indicate the onset of diseases such as prostate cancer and infection by viruses including HIV.

The researchers say their sensor would benefit countries where sophisticated detection equipment is scarce, enabling cheaper and simpler detection and treatments for patients.

Professor Molly Stevens, (Materials and Bioengineering), said: "It is vital that patients get periodically tested in order to assess the success of retroviral therapies and check for new cases of infection. Unfortunately, the existing gold standard detection methods can be too expensive to be implemented in parts of the world where resources are scarce. Our approach affords for improved sensitivity, does not require sophisticated instrumentation and it is 10 times cheaper, which could allow more tests to be performed for better screening of many diseases."

Dr Roberto de la Rica, co-author of the study (Materials), added: "We have developed a test that we hope will enable previously undetectable HIV infections and indicators of cancer to be picked up, which would mean people could be treated sooner. We also believe that this test could be significantly cheaper to administer, which could pave the way for more widespread use of HIV testing in poorer parts of the world."

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT



The technology is extremely sensitive and inexpensive, making it an ideal disease detector in poorer countries where resources are scarce.

## New opportunity for rapid treatment of malaria

Imperial researchers have identified a new means to eradicate malaria infections by rapidly killing the blood-borne *Plasmodium* parasites that cause the disease.

Malaria causes up to three million deaths each year, predominantly afflicting vulnerable people, such as children under five and pregnant women, in tropical regions of Africa, Asia, and Latin America.

Treatments are available for this disease, but the *Plasmodium* parasite is fast becoming resistant to the most common drugs, and health authorities say they desperately need new strategies to tackle the disease.

This new potential treatment uses molecules that interfere with an important stage of the parasite's growth cycle and harnesses this effect to kill them. The impact is so acute it kills 90 per cent of the parasites in just three hours and all those tested in laboratory samples of infected human blood cells within 12 hours.

The research was carried out by chemists at Imperial and biological scientists from the research institutions Institut Pasteur and CNRS in France. Their work is published in the journal *Proceedings of the National Academy of Sciences (PNAS)*.

Lead researcher Dr Matthew Fuchter (Chemistry) said: "*Plasmodium falciparum* causes 90 per cent of malaria deaths, and its ability to resist current therapies is spreading dramatically. Whilst many new drugs are in development, a significant proportion are minor alterations, working in the same way as current ones and therefore may only be effective in the short term. We believe we may have identified the parasite's 'Achilles' heel', using a molecule that disrupts many vital processes for its survival and development."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## It's life, but not as we knew it

There may be many times more animal species than previously estimated, after a new study identified more reliable ways to predict biodiversity across the planet.

Professor Timothy Barraclough (Life Sciences) and his former Imperial colleague Dr Diego Fontaneto were among a multinational team that has proposed a new way to measure the number of species of tiny creatures. The outcomes of the research are vital

for recording biodiversity, which is often used as an indicator for the health of an ecosystem or the wider environment.

The previous studies within the field had used variations of a particular gene – rDNA 18S – as a marker to estimate the range of species.

The new method uses a number of biological characteristics to identify species and has proved to be successful in classifying different animals, many of which are too small

to be seen without a microscope. The group, whose research was published in *Proceedings of the National Academy of Sciences (PNAS)* on 2 October, also recommend that future studies use their system instead of the past practice.

"Previous studies appear to underestimate the diversity of life. Our approach uses a different type of DNA barcode, which is not only more accurate but also suggests that far greater numbers of

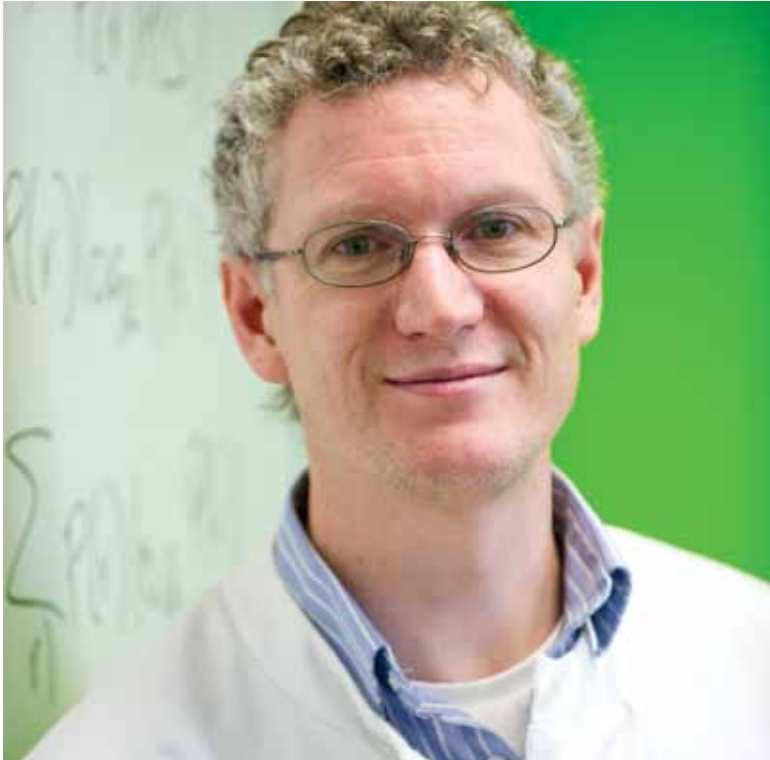


species exist," said PhD student Cuong Tang (Life Sciences), who conducted the research.

The results of the study apply especially to efforts attempting to record diversity in the world's soils and

sediments. Switching from the previously used method to this alternative DNA barcode could lead to far higher estimates of diversity than previously estimated.

—MICHAEL JONES, COMMUNICATIONS AND DEVELOPMENT



# Developing foresight

Dr Simon Schultz, Senior Lecturer (Bioengineering) discusses the future of academic collaboration with industry.

“Earlier this year, I stood in front of an audience of corporate R&D directors and suggested that in the future their brains could be eaten by cannibals ... on Hampstead Heath. Career suicide? No, exactly the opposite, in fact. I was speaking at Imperial’s 2032: *Tech Foresight* conference – a unique experiment to bring academics and industry together to explore the unintended effects that the research I’m doing in my lab right now might have in the future (and, I hasten to add, the cannibals were a worst-case societal modelling scenario, not an expected outcome).

I am director of the Neural Coding Laboratory in Bioengineering, where my research on the brain circuitry underlying perception and cognition doesn’t at first seem like work which would grab the attention of corporate research funders. Yet it is increasingly important that industry and universities work

more closely with each other; and not just with a focus on today’s core business activities.

Whilst there is growing insecurity about the research funding available through more traditional channels, the amount of corporate research funding available is on the increase, as is the recognition that universities are vitally important to industry. It is clear that in the near future, industry’s contributions will be ever more important to the research done at academic institutions like Imperial – not only in the form of research funding, but also in the less tangible benefits that a close relationship with the outside world can bring to a university.

Take the *Tech Foresight* conference as an example: academics and business people coming together to consider where we might be in 20 years’ time, through interactive sessions which culminated in the creation of a timeline to the future and in three scenarios, focused on technological developments and the societal conditions that could affect the way we adopt these new technologies.

The hazards of looking into the future and trying to say something meaningful can be easily imagined – its rewards were a surprise though. The benefits for the corporate attendees were clear; a glimpse of the kind of research happening at Imperial that could truly overturn the world in which they do business. We discussed technologies which could, in the future, pose all kinds of opportunities – and dilemmas – for industry; for instance, brain computer interfaces are likely to offer many improved ways for workers to interact with information. However, might they also offer more dubious temptations; by allowing businesses to monitor – and dictate – an employee’s work ethic, for example?

For my part, it was also fascinating to first look back and consider how things have changed since I wrote my doctoral thesis in the area of computational neuroscience and to then look forward and imagine what my current PhD students will be working on when they reach my stage in their careers. We made no explicit predictions, but there was real value in taking that time to stop and consider the consequences of my research and to reflect on what kinds of new research might be possible in the future, given developments in technology to come. Moreover,

“The need to look to the future is one which we all feel; academics, business people, universities, society”

it was thought provoking to discover, through speaking on the day with other academic ‘Foresighters’, that some of the changes I see in my field of research

– the decline of the role of ‘big pharma’ and the rise of smaller neurotechnology companies, for example – are trends felt by people across the board.

The need to look to the future – not to predict where we will be in 20 years but to consider a broad range of possible scenarios – is one which we all feel; academics, business people, universities, society. H.G. Wells, an alumnus of the Royal College of Science (now part of Imperial), wrote an essay in 1932, in which he called for experts who would consider the consequences of the changes going on in the world around them. He titled it *Wanted: Professors of Foresight!* and I think he might have been onto something.”

Next year’s conference will be held on 10 May 2013 and the hunt is on for ‘Professors of Foresight’. If you are interested in learning more please email Eleanor Harding: e.harding@imperial.ac.uk.



# Spooky science

Smoking marshmallows, a vibrant heart muscle and cobwebs galore – welcome to the Science Behind Our Fears event, held in the Main Entrance on 25 October. *Reporter* finds out more about the first of the Imperial Fringe events, which will provide staff and students with opportunities to try out public engagement throughout the year.

Last May, the Imperial Festival opened the College to thousands of members of the public for the first time and the subsequent evaluation revealed there was a huge appetite in the College to repeat this type of event on a more regular basis.

“Imperial Fringe aims to provide staff and students with a more informal platform to discuss their work and to encourage more members of the community to give public engagement a try,” explains Natasha Martineau, Head of Research Communications (Communications and Development).

Over the next six months the College will be holding Fringe events most months, drawing together research from across the College on topical themes, such as bones, or timely issues like last week’s on Halloween.

The Science Behind Our Fears event drew in around 350 visitors many of whom were young people.

Events Officer Harriet Martin (Communications and Development) was really pleased with the turnout.

“We really wanted to tap into the growing appetite for hands-on, science-related evening events that young people are flooding to across London,” she says.

## Cryogenics and the end of the world

One of the most dramatic stalls of the evening was run by PhD student Leon Vanstone (Aeronautics), who was based on a tricycle with a white umbrella, decorated with small black skeleton heads. There, he demonstrated to staff, students and members of the public how to freeze and smash roses using liquid nitrogen, in order to explore the subject of cryogenics. Leon also fed visitors freshly iced marshmallows, which smoked when you crunched them.

Cryogenics is the concept of cooling legally-dead people

to liquid nitrogen temperature (-210 °C) where physical decay essentially stops. Leon used his experiment to tackle the Halloween-appropriate topic of apocalypse; more specifically, ‘When the world is over, what can humans do next?’ One of the ideas is to use cryogenics to freeze and transport people to a new star thousands of light years away to ensure the survival of the human race.

Leon explained to visitors that the technology for cryogenics isn’t yet possible because the effect of freezing on people’s internal membranes is not known.

“I love doing live experiments and talking about the ethical questions of our research with members of the public,” says Leon.

Leon regularly gets involved in public engagement activities at the Natural History Museum, as well as helping out with homework

“I really enjoy speaking to the public about the kind of things we do in the lab, and sometimes using crazy analogies”





Exhibiting at the Fringe

- 1 Leon Vanstone (Aeronautics)
- 2 Matt Tranter (NHLI)
- 3 Dr Wes Hinsley (Public Health)



clubs via the Outreach office at Imperial. “I really enjoy speaking to the public about the kind of things we do in the lab, and sometimes using crazy analogies to help show that complicated scientific theories are often quite simple.”

Educated at a state school, Leon thinks outreach work like this is particularly important. “I want to show school pupils that there is no reason why any of them couldn’t do a degree at Imperial – there is no mystery to it – you just need an interest in the world and be prepared to work hard.”

### Can you die from fright?

Brandishing a real pig heart procured from the local butcher, research postgraduates Pete Wright and Matt Tranter (NHLI) drew visitors to their stall where they discussed whether it is possible to ‘die from fright’. “People are well aware of the dangers of heart attacks,” says Pete, “but in our industrialised society, the average person is so far removed from the visceral that we wanted to give them the chance to actually feel the myocardium – the muscular tissue of the heart – and, in my opinion, the most amazing material in the universe!”

Pete and Matt both work in Professor Sian Harding’s group, with Pete using microscopy to consider how receptors in the heart are affected by stress and Matt looking at menopausal women who have suffered from cardiac arrest following stressful scenarios.

Although Matt had never had any experience of being involved in a public engagement activity like

this before, Pete had volunteered at the Imperial Festival in May, where he talked to the public about cardiac stem cells. “These type of events take you out of the narrowly focused mindset of the lab and remind you how exciting what you are doing really is,” he explains. He recalls being asked some very bizarre questions, such as, “can we eat muscle grown from stem cells” and “is it a good food to take to space?”

### Modelling a zombie outbreak

The most contagious stall of the event was run by Junior Research Fellow Dr Deirdre Hollingsworth and Dr Wes Hinsley (both Public Health). Deirdre’s role at Imperial is to build computer models of how infectious diseases are transmitted, to help inform policy during an outbreak such as the swine flu epidemic in 2009. Wes provides high performance computing support for academics and, as a postdoctoral researcher at Imperial, developed some computer modelling software called the Global Epidemic Simulator.

At the event, the team used a greatly simplified interactive version of the global simulator to show the behaviour of an infectious outbreak of Halloween-esque figures such as zombies, werewolves, witches and vampires. The specific characteristics of a disease, along with people’s mobility and any intervention policies applied, are key factors in predicting the spread of real

outbreaks. Deirdre explains the theory of the simulation: “Zombies are infectious when they are symptomatic – you can easily spot a zombie. So if you can isolate everyone who looks like a zombie you can control a zombie outbreak.” Wes goes on to explain how werewolves have seasonal behaviour in that at certain times of the year, they make more ‘contacts’ than at other times. This behaviour is comparable to influenza, which people in the UK most commonly catch in autumn, perhaps due to the social effects of the previous school holidays, or to the change in weather.

In addition to showing visitors the computer model, Deirdre also concocted a simulated epidemic at the event – getting volunteers to infect unsuspecting visitors with ‘infection cards’. Those infected had to go up to the stall where their ageband and the time was fed into a computer, with real-time data analysis projected onto the wall. They were then invited to roll a dice and then infect that number of other people to propagate the epidemic. “By the end of the event we had 136 cases, mainly in 20–30 year olds”

Both Deirdre and Wes hope the exercise will help people gain more of an understanding about media coverage of epidemics. “When the swine flu epidemic hit, there was a lot written in the media about it, but there wasn’t much about the dynamics of outbreaks,” says Deirdre. “I hope from our demos that people will gain an awareness that there are scientists who model outbreaks and carefully consider the effectiveness of interventions based on the likely characteristics of the disease.”

Continuing with the zombie theme, visitors to the event also had the chance to enjoy talks by Frank Swain, science writer and broadcaster, who is currently writing *How to make a Zombie: the real life (and death) of science reanimation and mind control*.

Stephen Roberts, Acting Head of Face-to-Face Learning at the Natural History Museum, was one of the many visitors to enjoy the first Fringe event. “It was a delight to see so many enthusiastic conversations taking place and such a vibrant atmosphere,” he says. “These Thursday nights will be another excellent addition to the increasingly rich cultural landscape that we all enjoy on and around Exhibition Road – I am looking forward to the next one.”

–EMILY ROSS-JOANNOU, COMMUNICATIONS AND DEVELOPMENT

*Pop along to the next Fringe event, Cutting close to the bone, on 29 November 17.30–21.00 in the Main Entrance.*

“These type of events take you out of the narrowly focused mindset of the lab and remind you how exciting what you are doing really is”

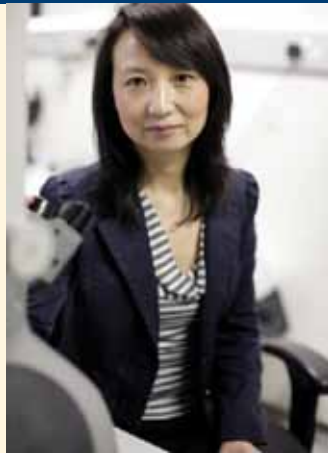
# inside\*

## story

### mini profile

## Xiaodong Zhang

Reporter speaks to Professor Xiaodong Zhang (Life Sciences), Director of the Centre for Structural Biology (CSB) at the College, about receiving a Wellcome Trust Senior Investigator Award.



**How did you feel when you heard you had won the award?**

It felt very surreal. The award gives me a lot of freedom to explore things that I probably couldn't have done before and provides financial security for my group for the next five years.

**What is your main field of research?**

I study the repair process of DNA which has been damaged by toxic chemicals, such as smoke or drugs.

**How is the funding going to benefit the CSB?**

In fact, this award is personal. However, what I am doing is part of the Centre's mission as well. The CSB has been awarded the Wellcome Trust multi-user equipment grant, which allows us to update our major facilities. As the director, my goals are to achieve even higher quality of research in structural biology and to promote collaboration between scientists.

**What will you use this award to investigate?**

One thing I want to look at is the detection of DNA damage using cell biology and biochemical techniques. Such damage sends signals that trigger a cascade of cellular events that eventually lead to action by the cell.

**What are your hopes for your research in the future?**

I want to be the major contributor in dissecting

the DNA pathway at the atomic level. If we understand that, in principle it could help us understand cancer development and devise novel treatments for patients.

—KELVIN TANG, WORK EXPERIENCE IN COMMUNICATIONS AND DEVELOPMENT

“The award gives me a lot of freedom to explore things that I probably couldn't have done before”

## Keeping research afloat

PhD Student Peter Wright (NHLI) writes about a petition he is organising to protect transportation of animals for medical research.

“As a PhD student at the National Heart and Lung Institute I conduct research into heart failure using animal models. Animal experimentation is a central pillar of modern medical research. Every Nobel Prize awarded for Physiology or Medicine over the last 40 years (save for one in plant science) has been informed by animal work.

Yet there are individuals and groups who claim *in vivo* research is devoid of scientific value. Some are well-funded charities and all claim to represent the majority of the public.

Recently they have caused huge disruption for the scientific community. Ferry companies and airlines have stopped essential transportation of animals destined for UK research labs. This is in response to concerted lobbying and, in the worst cases,

intimidation of employees.

Somewhat understandably these companies have bowed to this pressure and ceased to handle animals for research. The use of specialist couriers will make the process of research slower and more expensive.

Animal rights groups have exerted undemocratic pressure on the UK research community and the wider economy. Their moral arguments, which they often support with pseudoscience,

continue to convince a sizeable segment of the population. It is time for universities and researchers to present the true scientific argument for *in vivo* research.

For this reason I'm petitioning the Government to persuade

these organisations to resume transport of animals for medical research. The government should then protect the legitimate right of these companies to do so.

You can sign the e-petition Protect transportation of animals for medical research at <http://epetitions.direct.gov.uk/petitions/40111>.

“Animal experimentation is a central pillar of modern medical research”



### ► SCIENCE FROM SCRATCH

As explained by Laurence Pope, MSc Science Communication

## The hygiene hypothesis

Cleanliness isn't always next to godliness; it's actually possible to be too clean. The hygiene hypothesis states that a child growing up in an overly clean environment is left more susceptible to allergy development in later life. Allergic reactions occur when the body's immune system overreacts and generates an inappropriate response to a harmless substance, such as pollen in hayfever. The effects of overreaction to pollen can range from a slightly runny nose to constriction of the airways and suffocation. By existing in an increasingly clean environment, a result of twenty-first century hygiene and healthcare improvements, a greater number of children aren't sufficiently exposed to various infectious agents or parasites. Without exposure to such minor infectious agents, immune system development is skewed and the child fails to develop a well-balanced immune system. The hygiene hypothesis was put forward in 1989 in the *British Medical Journal*, as a way to explain why children in large families developed fewer allergies compared with only children – in large families infectious agents are more likely to spread from child to child. In short, send your kids outside – mud and dirt really are good for you!



## Politicians of the future

Described by United Nations Secretary-General Ban Ki-Moon as an “exercise that gives students a full taste of the complexity of international relations”, the London International Model United Nations conference (LIMUN) is coming to Imperial from 15–17 February 2013. Franca Hoffmann (MSci Mathematics with a Year in Europe) is on the LIMUN press team and she went along to the launch of the event on 18 October. She tells us about her experiences.

“London International Model United Nations is an independent charity which aims to extend cultural empathy, understanding of international affairs, and knowledge of the United Nations amongst young people through the organisation of an annual Model United Nations (MUN) conference.

“In an era when challenges spill over borders and have global reach, our future depends on how well we work together. I spoke to Philippe Rival, President of the Imperial College MUN society about how LIMUN can help reach this goal.”

He said, “These conferences bring together the best and brightest debaters, speakers and inspirational figures in the global student community for a three-day discussion about world news and current affairs.

“Students should be interested in MUN, because scientists, engineers, doctors all share the common trait that their work revolves around finding a solution to a problem using knowledge and reasoning. People from Imperial know what it means to go and find an answer, and they even go to such lengths as to give up their night’s sleep on such problems.”

[www.limun.org.uk](http://www.limun.org.uk)



## Meeting the royals in Malaysia

**Dr Rob Ewers (Life Sciences) is the lead scientist of the Stability of Altered Forest Ecosystems (SAFE) project – one of the world’s largest ecological experiments – based in Sabah, Malaysia. The study is designed to understand how forest ecosystems are affected by human pressure, and examines what happens when a forest is logged and then fragmented. Rob reports on what happened when the project received a visit from the Duke and Duchess of Cambridge this summer.**

“I was visiting Malaysia to check on the progress of the project in July and heard that we were going to receive a visit from the royal couple. They were visiting the Danum Valley conservation area, which is located nearby and operated by the Royal Society Southeast Asia Rainforest Research Programme, an important partner for the SAFE project.

The Duke and Duchess flew to Danum by helicopter, taking a tour over the SAFE project site. Then they visited Danum Valley, where we met in a room in which shoes aren’t allowed, which I wasn’t expecting – I was wearing odd socks but I don’t think they noticed!

I was leading one of the research groups they spoke to, along with my wife Dr Cristina Banks-Leite (a newly appointed lecturer at Imperial), and we discussed aspects of SAFE, for example, how we were investigating the responses of more than 3,000 species to human pressures, as well as tracking changes

in carbon emissions, water quality and disease vectors, like mosquitoes.

Kate and William were highly intelligent and very personable. William said he appreciated the pragmatic approach we take and that it’s important to avoid extreme positions. SAFE’s project philosophy is to accept that industry has pressures and cannot simply ignore them to improve conservation. We work in collaboration with industry to improve the impacts of agriculture on forest ecosystems, as opposed to locking horns with them in battles over conservation issues. Kate was interested in how the project linked with other studies around the world. I’d like to think they were impressed with what we were doing.”

For more on the SAFE project visit: [www.safeproject.net](http://www.safeproject.net)

### Speak out

#### Story ideas?

We welcome contributions from across the College. The next publication day is 22 November. *Reporter* is published every three weeks during term time in print and online at [www.imperial.ac.uk/reporter](http://www.imperial.ac.uk/reporter)

Contact the Editor:

✉ [reporter@imperial.ac.uk](mailto:reporter@imperial.ac.uk)

☎ +44 (0)20 7594 6715



## Fuelling up

Serving up healthy salads, pies and other energy-packed items, there's a new catering outlet on the South Kensington Campus aptly named *Fuel*. Reporter spoke to Jemma Morris (Commercial Services) about the new eatery.

"Our new outlet *Fuel*, which replaces the bookstore on the walkway, offers a fresh approach to grab-and-go style eating, and the self-service salad bar is designed to offer more healthy options to staff and students.

Here are my top five fun facts about *Fuel*:

- ONE warming soup and ONE homemade stew is available each day
- *Fuel* sells TWO flavours of award winning Piminsters pies daily
- The team had just THREE weeks to prepare for its first customers – from initial concept to opening
- FOUR friendly team members are waiting to help you
- *Fuel* sells freshly made smoothies and superfood salads – great for stocking up on your FIVE a day"

*Fuel* is open from 11.00–15.00 Monday to Friday.  
[www.imperial.ac.uk/eatinganddrinking](http://www.imperial.ac.uk/eatinganddrinking)

## Patient-doctor cycle team blaze Olympic route

Francesco Dazzi, Clinical Professor of Stem Cell Biology (Medicine), pictured right, completed the LLR bikeathon on 16 September in support of the Leukaemia Lymphoma Research charity.



"I am one of the consultant haematologists running the bone marrow transplantation programme at Hammersmith Campus. One of the worst complications of this procedure is graft-versus-host disease (GvHD) which can be lethal or produce life-long problems. A couple of months ago in my clinic I was seeing Valeri Stoitchkov, a patient affected by severe chronic GvHD. Valeri's skin and muscles are stiff as a result of the disease but he has not lost enthusiasm for life. He cycles to work every day and this is what softens his movements and gives him energy. Knowing that I like cycling – I regularly put my life at risk mountain biking – he asked me whether I would cycle with him in the LLR bikeathon, this year along the Olympic route. The distance was much longer than I usually ride and I was still bearing the consequences of a recent shoulder injury. But I felt immediately compelled by his example and by the fact that my research is actually focused on GvHD. We managed to cover about 95 miles and, believe me, especially for Valeri, this was gruesome. But it was a great lesson for all who work in the field. It took a while; you can guess what six hours in the saddle means. We have raised £3,900 so far and money is still coming in."

To support Francesco and Valeri visit: [www.justgiving.com/Francesco-Dazzi](http://www.justgiving.com/Francesco-Dazzi)

### ▶ TIME OUT

## Women in SET

Try this experiment; close your eyes, and imagine a scientist. Now think about the individual who sprang to mind... were they male or female? Perhaps inadvertently, most of us would have had a male figure in mind, and it's exactly this stereotype the Imperial College Women in SET (Science, Engineering and Technology) Society aims to challenge.

SET areas tend to be male-dominated in academia as well as in the private sector and, here at Imperial, the picture's no different. In the 2011–12 academic year, male students outnumbered females by two to one on average, with the

stark disparity in the Department of Aeronautics, where males outnumbered females by almost five to one.

Enter the Women in SET Society, one of whose aims is to encourage the next generation of talented females to take up SET subjects at university, which they do by inviting London schoolgirls to campus for an annual open day.

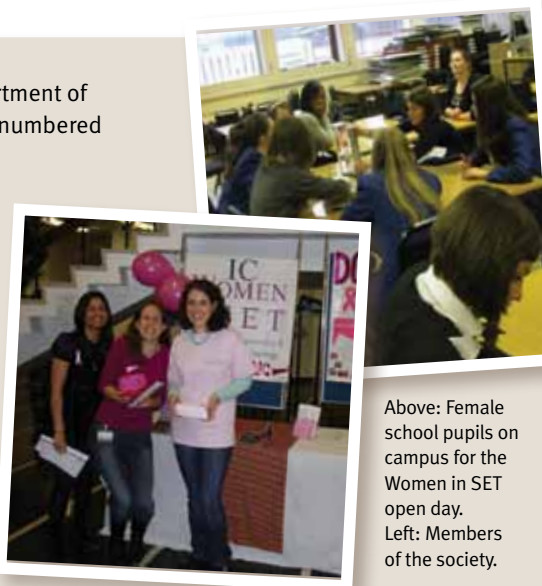
Laura Johnston (Mathematics) explains: "The objective is to provide the young girls with role models. It's humbling to see how well the girls engage with us; it makes me feel like I've done my bit for the next generation of female scientists!"

The society also tries to equip female students at Imperial with the skills they need to forge successful careers. Fourth year student Veronica Gouvea (Chemistry) is most proud of career-focused events like last year's panel discussion Women in Industry, involving representatives from

Bloomsbury publishing house and the IT consultancy firm, Thoughtworks.

She says: "The events are hands-on and can have a direct impact – lots of girls who attended got internships as a result. For us, it's about supporting women in whatever career they choose and helping them grow in confidence."

—JESSICA ADAMS, COMMUNICATIONS AND DEVELOPMENT



Above: Female school pupils on campus for the Women in SET open day.  
 Left: Members of the society.

### Highlights

- **Meeting times:**  
Once a week
- **Society size:**  
Currently 62 members (both male and female)
- **Experience required:**  
None
- **More information:**  
[www.union.ic.ac.uk/scc/women\\_in\\_set](http://www.union.ic.ac.uk/scc/women_in_set)



**INVENTOR'S CORNER**

# Modelling gene networks

Rob Krams is Professor of Molecular Bioengineering at Imperial. His research group is using synthetic biology – the field of identifying and synthesising gene networks in cells – to develop better diagnostic tools for patients suffering from ‘vulnerable atherosclerotic plaques’; unstable lesions that form in the blood vessels of advanced atherosclerotic patients.

**What is atherosclerosis and why have you targeted it?**

It is a disease in which plaque builds up inside arteries. One third of patients with advanced atherosclerosis die in the UK and Europe and 70 per cent of these patients have an advanced vulnerable plaque. The plaques sit in the vessels and upon physical exertion, the blood pressure rises, which ruptures this plaque and leads to abrupt closure of your vessels. This can lead to brain damage and heart attacks.

**How are you approaching this problem?**

We cannot be sure if an atherosclerotic patient has a plaque as

they display no symptoms, so we want to avoid using unnecessary, invasive diagnostic tools such as catheters. We are collaborating with several departments to develop non-invasive molecular imaging tools and using MRI contrast material as a diagnostic agent to identify molecules sitting in the plaque. We also use computing methods to identify networks of genes in atherosclerotic subjects and build these networks into the cells of mice, enabling us to evaluate how vulnerable plaques can be prevented.

**How can this be developed for therapeutic purposes?**

We want to study isolated atherosclerotic gene networks, transfer these into mouse tissue and study whether the mice become better protected against atherosclerosis. If we can recognise a gene network that is specific to a targeted molecule then we can develop new specialised drug treatment. This is far more effective than statins – the drugs used to currently treat atherosclerosis – which affect the whole vascular system and carry significant side effects.

–KAILEY NOLAN, IMPERIAL INNOVATIONS



## PA Away Day

Personal Assistant, Mrs Charlotte Beard (Capital Projects and Planning), reports on her experience of attending the PA Away Day over the summer. The PA Networking Group offers development, support and networking opportunities for Imperial staff who perform a PA type function.

**What was the aim of the event?**

The aim of the event was to strengthen the PA Network and consider our individual development needs.

**What did you learn?**

We looked at approaches to ‘working smarter’ and thinking about the way we are perceived by others. We also looked at the seven ‘Imperial Expectations’ – a set of statements which articulate how the College expects its leaders, managers and supervisors to behave, such as championing ‘a positive approach to change and opportunity’. All seven of the statements are equally important and relevant to our roles.

**What element of the day did you find the most helpful?**

I really enjoyed the opportunity to get to know colleagues, especially those whose names I recognised from emails, but had never met. Even during breaks we were discussing where we work in the College and other factors affecting our roles. The network is a great resource for anyone in an administrative support role, whether ‘PA’ is in your job title or not.

*If you are interested in joining the PA Network, please contact: [pa-network-committee@imperial.ac.uk](mailto:pa-network-committee@imperial.ac.uk)*

**VOX POP**

## Graduating students share their thoughts on the big day

Reporter caught up with some students just before they went in to the ceremony at the Royal Albert Hall, and asked them what their personal highlights of 2012 were.



ASHISH KARIR, MATHEMATICS

“You work around the Royal Albert Hall for three years so it’s quite nice to actually be here, together with everyone you’ve studied with. Having seen a few Commemoration Days it’s nice to be part of it.”



CONNIE NG, MATHEMATICS

“I worked very hard and now I’ve got my degree, I’m so happy. I’m going on to study law, which is a significant change after mathematics, but I’m looking forward to it.”



NATHAN FERROL, MATHEMATICS

“My highlight has to be the Olympics. I was actually a volunteer at the stadium, so I was really close to the action, and it was just a great experience being there and seeing everyone cheering.”

## obituaries



KATHLEEN GOFF

**Kathleen Goff, a former secretary at St Mary's Campus, died on 30 July 2012. Nigel Palmer, formerly Librarian at St Mary's, pays tribute to his colleague:**

"Katy spent virtually all her working life at St Mary's Hospital Medical School (now St Mary's Campus) from 1953–92, as secretary to four successive heads of the Bacteriology Department, Professors Robert Cruickshank, Robert Williams, Alan Glynn and Charles Easmon. Cruickshank was the immediate successor to Sir

Alexander Fleming, discoverer of penicillin.

During these 39 years, apart from her work in a busy department, Katy made a great contribution to medical school life by conveying her love of art to its students and staff.

She served as secretary to the Medical School Arts Committee from 1990 until her death and was a member of the Hospital Arts Committee, which aimed to bring about an enhancement of the environment within the school by adorning its previously bare corridors, staircases and function rooms with a variety of paintings and other works of art.

Katy's unique achievement, however, was to organise single handedly around 200 lunch time art lectures from the early 1980s to 2012.

Although she retired in 1992, Katy remained a familiar face on the arts scene at St Mary's. She was a regular worshipper at Westminster Abbey and had a circle of friends in Covent Garden, where she lived. She will be greatly missed in all these places."

JON WEAVER

**Jon Weaver, Lecturer in Polymeric Biomaterials (Materials and Bioengineering), died from cancer on 4 July at the age of 32. Professor Molly Stevens (Materials and Bioengineering), pays tribute to him, with inspiration from friends, colleagues and students.**

"Jon was a brilliant scientist and an incredible person. He began working at Imperial in April 2010, based jointly between the Departments of Materials and Bioengineering. His potential was rapidly recognised and he received a prestigious five-year Royal Society Fellowship. He is probably the only academic in history to have been offered the fellowship despite turning up in jeans – a testament to how true to himself he was! In 2011

Jon's scientific achievements were recognised by the UK polymer science community, and he received the Macro Group Young Investigator's medal. Jon was an outstanding teacher and supervisor. He always took time to explain to his academic colleagues the basics of the polymer world. For his students he was an attentive, caring and

"Jon was a brilliant scientist and an incredible person"



inspirational leader who managed to get the best out of them. They nicknamed him The WeaverTron for his numerous creative ideas. His enthusiasm about science was completely infective; he could talk

for hours about it and was completely generous in his scientific advice and ideas. Time spent with him would often be time spent laughing.

Jon's love of science was such an important part of

him, he worked hard at it but at the same time, it gave him immense joy and satisfaction, and his impact on the science community was enormous. We will all miss him greatly. He is survived by his wife, Emma, his daughter, Lily, and his parents, Mark and Anne.

For the full obituary see: [www.imperial.ac.uk/people/j.weaver](http://www.imperial.ac.uk/people/j.weaver)

## An interview with Rifat Atun

Last week Professor Rifat Atun, Professor of International Health Management and Head of the Healthcare Management Group (Business School), launched a book he edited, *Closing the Cancer Divide: An Equity Imperative* at the London School of Hygiene and Tropical Medicine. Reporter spoke to Rifat about what gets him up in the morning and why he wanted to tackle inequities in polices to address cancer.



**When did you first become interested in global health and why?**

When I was at medical school, I saw that there was an opportunity to provide, not just good clinical care but also good policy to improve healthcare services across the world.

**Why did you think health policy needed to be improved?**

Health systems, and especially hospitals, are typically rewarded for treating sick people but there is very little reward for maintaining good health. This is where there is a real anomaly. Policies support sickness systems as opposed to health systems, yet we call our system in the UK the National Health System.

**What motivates you in your role?**

I always get up early to leave for work because

there are so many opportunities for achieving good health and empowering people. We now have new technologies, innovative medicines and new diagnostics, but often these are not taken up appropriately.

**What drew you to work on the book about cancer?**

I was looking at cancer policies between 2005 and 2007, focusing on how they differed between countries. I noticed a deficiency in policy to address cancer, with limited targets, even in European countries, except for England and France.

**What have you learned about the approach to global health over the last 20 years?**

What's important in global health is not what one individual can do, but instead it is about working as a team. It takes actors from different international institutions, as well as country leaders, to come up with solutions to complex problems.

—CHER THORNHILL, COMMUNICATIONS AND DEVELOPMENT

To purchase a copy of the book visit: <http://bit.ly/rifatatun>

## Welcome new starters

Miss Charlotte Allen, Life Sciences  
 Miss Amanda Allotey, ESE  
 Dr Mark Almond, NHLI  
 Dr Vasiliki Anagnostopoulou, Mathematics  
 Dr Toby Andrew, Public Health  
 Mr Epameinondas Antonakos, Computing  
 Dr Hena Arif, Medicine  
 Miss Sasha Ashbourne-Lewis, NHLI  
 Dr Ryan Barnett, Mathematics  
 Dr Elena Barquero Bardon, Public Health  
 Dr Ian Bastow, ESE  
 Dr Parvin Begum, Clinical Sciences  
 Mr Scott Biagi, Humanities  
 Mr James Booth, Computing  
 Ms Areti Boulieri, Public Health  
 Mr Georgios Bouras, Surgery and Cancer  
 Dr Michael Bresalier, Humanities  
 Mr Michael Breza, Computing  
 Dr Doryen Bubeck, Life Sciences  
 Dr Peter Buchak, Mathematics  
 Mr James Buckley, NHLI  
 Mr Guy Burdiak, Physics  
 Mr Benjamin Byrne, Surgery and Cancer  
 Mr Timothy Candy, Mathematics  
 Mr Lucas Carstens, Computing  
 Professor Jeff Cash, Mathematics  
 Dr Megha Chadha, Physics  
 Mrs Tessa Chambers, Public Health  
 Mr Robert Chapman, Materials  
 Mr Muzzafer Chaudery, Surgery and Cancer  
 Mr Shiyang Cheng, Computing  
 Ms Lucy Chivers, Civil and Environmental Engineering  
 Dr Philip Coan, Clinical Sciences  
 Mr Jonathan Colmer, Grantham Institute  
 Professor Rama Cont, Mathematics  
 Mr Thomas Cowling, Public Health  
 Emeritus Professor John Dainty, Physics  
 Mrs Shikta Das, Public Health  
 Mr Joao De Jesus Reis Lagarto, Physics  
 Miss Giovanna De Palo, Life Sciences  
 Mr Kieran Dee, Medicine  
 Dr Jaideep Dhariwal, NHLI  
 Mr Ajaya Dhungana, Catering

Mr Jonathan Downing, Materials  
 Dr Jacob Eldering, Mathematics  
 Mr Rhys Farrer, Public Health  
 Professor Jorge Ferrer Marrades, Medicine  
 Mr Jason Filos, EEE  
 Dr Nicola Fitz-Simon, Medicine  
 Mr Samuel Foster, Physics  
 Miss Larissa Franklin-Nembhard, Surgery and Cancer  
 Ms Marta Gabrych, Humanities  
 Mr Enrique Gallego Colon, NHLI  
 Mr Christos Georgakis, Computing  
 Dr Mindy Gore, Medicine  
 Mr Tim Grove, NHLI  
 Mr Gabor Gubicza, Mechanical Engineering  
 Mr Florian Guitton, Computing  
 Dr Matthew Habgood, Chemical Engineering  
 Mr Ioan Hadade, Mechanical Engineering  
 Mr Andras Hajdu, Climate KIC  
 Dr Fozia Hamid, Public Health  
 Mr Mohammed Hankir, Clinical Sciences  
 Mr Matthew Hannon, Environmental Policy  
 Dr Joseph Henson, Physics  
 Dr Mohammad Hoque, Civil and Environmental Engineering  
 Dr Yanghong Huang, Mathematics  
 Mr Archie Hughes-Hallett, Surgery and Cancer  
 Professor Debra Humphris, Educational Quality  
 Miss Misha Imtiaz, Chemical Engineering  
 Mr Ivans Jermolovs, Catering  
 Dr Iain Johnston, Mathematics  
 Dr Emrys Jones, Surgery and Cancer  
 Mr Andrew Jones, Computing  
 Mr Remi Joubaud, Mathematics  
 Ms Narvada Jugnee, Medicine  
 Dr Andreas Kafzas, Chemistry  
 Mr Angelo Karunaratne Munasinghe Arachchige, Bioengineering  
 Dr Aidan Keane, Life Sciences  
 Ms Teresa Kennedy-Lydon, NHLI  
 Mr Ariel Kernberg, Humanities  
 Mrs Farida Keshavjee, Medicine  
 Ms Eleanor Kirk, Humanities  
 Dr Alexandra Kleinlercher, Professional Development  
 Mr Ioannis Konstantelos, EEE  
 Dr Margarita Kotti, Surgery and Cancer  
 Mr Dimitrios Kouzapas, Computing

Dr Dmitry Kovrizhin, Mathematics  
 Mr Adam Kucharski, Public Health  
 Dr Helga Laszlo, Public Health  
 Dr Jessica Le Ven, Surgery and Cancer  
 Miss Clare Leeson, Medicine  
 Ms Lydia Leon, Surgery and Cancer  
 Dr Anders Lervik, Chemistry  
 Miss Justine Lesforis, Faculty of Medicine  
 Ms Jingjing Li, Humanities  
 Miss Juliane Liepe, Life Sciences  
 Mr Nuno Loisas Tome, Catering  
 Dr Ismael Lopez Duarte, Chemistry  
 Dr Kevin Lovelock, Chemistry  
 Mr Calum MacLeod, Human Resources  
 Dr Alexandr Malijevsky, Chemical Engineering  
 Miss Sreelakshmi Mallappa, Surgery and Cancer  
 Miss Patrizia Marchetti, Chemical Engineering  
 Mr Jared Marklew, Chemistry  
 Dr Jonathan Marshall, Mathematics  
 Dr Stephan Martin, Mathematics  
 Ms Meg Mashbat, Medicine  
 Dr Andreas Mautner, Chemical Engineering  
 Dr Damia Mawad, Materials  
 Mr Francesco Mazzarotto, NHLI  
 Ms Louise McGrath, Public Health  
 Mr Rory McCarthy, Environmental Policy  
 Mr Alasdair McCartney, Faculty of Medicine  
 Dr Melissa Merritt, Public Health  
 Dr Miguel Meuleman, Business School  
 Mr Jakub Michaliszyn, Computing  
 Dr Irene Miguel-Aliaga, Clinical Sciences  
 Mrs Ana Mijic, Civil and Environmental Engineering  
 Miss Harriet Mills, Public Health  
 Dr Sinan Mir, Public Health  
 Mr Ryan Mitchell, Medicine  
 Miss Jo Monger, Life Sciences  
 Mr Neil Murphy, Public Health  
 Miss Saira Naeem, Chemistry  
 Mr Amanda Shevanti Nayagam, Medicine  
 Miss Joanna Norton, Finance  
 Mr Vincent Okonji, Human Resources  
 Dr Niamh O'Sullivan, Medicine  
 Mr Dimitrios Papadaskalopoulos, EEE

Mr Athanasios Papaioannou, Computing  
 Mr Vasileios Papaioannou, Chemical Engineering  
 Mr Karthick Parashar, EEE  
 Dr Matthew Parkinson, Computing  
 Miss Katarzyna Parzych, Medicine  
 Dr Yasmin Pasha, Medicine  
 Dr Sara Pasquetti, Mathematics  
 Dr Vanash Patel, Surgery and Cancer  
 Mr Neil Patel, Surgery and Cancer  
 Miss Clare Pearson, Public Health  
 Mr Federico Pesci, Chemistry  
 Dr Gemma Petts, Medicine  
 Mr Chin Phuah, Materials  
 Dr Ilse-Sanet Pienaar, Medicine  
 Ms Fiachra Pilkington, EYEC  
 Mr Manuel Pinuela, EEE  
 Mr Duccio Piovani, Mathematics  
 Mr Jeffrey Pittaway, Business School  
 Mr Leslie Primo, Professional Development  
 Miss Hayley Pye, Chemistry  
 Dr Deepa Rajagopal, Medicine  
 Mr Juan Ramirez Beiruty, Catering  
 Mr Gilbert Raphael, Finance  
 Dr Vasileios Raptis, Chemical Engineering  
 Miss Nathalie Reichmann, Medicine  
 Dr Carmen Rodriguez Maldonado, Chemistry  
 Miss Kate Royle, Chemical Engineering  
 Dr David Rueda Armada, Medicine  
 Mrs Monika Rusinska, Humanities  
 Ms Sophia Rusnakova, Life Sciences  
 Mr Andreas Schuh, Computing  
 Mr Vikram Selvarajan, Catering  
 Mr James Semple, Physics  
 Dr Anand Shah, Medicine  
 Miss Nisha Shah, Medicine  
 Miss Hannah Shales, Medicine  
 Dr Benjamin Sharp, Mathematics  
 Mr Joseph Sherwood, Bioengineering  
 Mr Wenzhe Shi, Clinical Sciences  
 Mr Piotr Siciak, Faculty of Medicine  
 Mr Daniel Silk, Life Sciences  
 Dr Aaron Sim, Life Sciences  
 Miss Jennifer Simeon, Public Health  
 Miss Anna Simmonds, Medicine

Dr Jennifer Simonotto, NHLI  
 Mr Mahesh Singh, Public Health  
 Mr Mohan Singh, Surgery and Cancer  
 Mr Dan Smith, Human Resources  
 Mr Thomas Smith, Life Sciences  
 Dr Shufang Song, Chemical Engineering  
 Miss Kylie Such, NHLI  
 Mr Martin Summersgill, Finance  
 Mr Donatas Talmontas, Catering  
 Dr Lionel Tan, Medicine  
 Mr Matthew Taylor, Physics  
 Dr Marios Theofanous, Civil and Environmental Engineering  
 Mr Llewellyn Thomas, Business School  
 Mr Alexander Thompson, Chemistry  
 Miss Morgan Todd, NHLI  
 Ms Maria Tomas Rodriguez, Professional Development  
 Mrs Dilek Unsal, Humanities  
 Dr Amy Unsworth, Professional Development  
 Miss Beatriz Valcarcel Salamanca, Public Health  
 Dr Nikhil Vergis, Medicine  
 Ms Mariana Vermeer, Faculty of Engineering  
 Dr Benoit Vicedo, Physics  
 Dr Xiuli Wang, Chemistry  
 Mr Daming Wang, Materials  
 Dr Mark Weatherall, Humanities  
 Miss Xiaoyao Wei, EEE  
 Dr Zachary Whinnett, NHLI  
 Mr James Wilgeroth, Physics  
 Mr Anthony Wilkinson, Human Resources  
 Dr Matthew Wraith, Humanities  
 Dr Hui Xu, Mathematics  
 Dr Sophie Yacoub, Medicine  
 Miss Rachel Yan, NHLI  
 Ms Weizhen Yang, Computing  
 Mr Ismail Yildiran, Catering  
 Ms Fei Yu, Humanities  
 Dr Xin-Fang Zhang, Materials  
 Dr Julia Zollner, Surgery and Cancer

This data is supplied by HR and covers staff moving in from 26 September–16 October 2012. See the online supplement at <http://bit.ly/Reporterpdfs> for staff moving on and retirements.



6 NOVEMBER ▶ PUBLIC LECTURE

### Metamaterials: new horizons in electromagnetism

In the last decade a new area of research has emerged as a result of our ability to produce materials with entirely novel electromagnetic properties. Known as metamaterials because they take us beyond the properties of

conventional materials, they display remarkable effects not found in nature, such as negative refraction. In the 25th Schrödinger Lecture Professor Sir John Pendry (Physics) explains the theory behind materials with a negative refractive index that are used for applications including the invisibility cloak, in areas of telecommunications, solar energy harvesting and medical diagnostics.



21 NOVEMBER ▶ PUBLIC LECTURE

### Designing a more resilient society: the role of digital technologies

Digital technology has transformed the way many of us live and work, but undeniably it has failed to

reach certain groups, often the older generations. As we all live significantly longer the quality of the latter stages of our lives can be poor and therefore the demands for health and social care are set to increase without the budgets to pay for it. Join Mat Hunter of the Design Council for a discussion about the role of digital technologies in the provision of public services.

7 NOVEMBER ▶ PUBLIC LECTURE

### Sleeping, breathing and inspiration

Professor Mary Morrell (NHLI)



7 NOVEMBER ▶ PUBLIC LECTURE

### Better integration with telehealth and telecare. Really?

Chaired by Professor James Barlow (Business School)

8 NOVEMBER ▶ MUSIC

### Lunchtime concert

The Chamber Players

8 NOVEMBER ▶ SEMINAR

### Connecting DNA damage to checkpoint initiation

Professor Peter Burgers, Washington University



12 NOVEMBER ▶ SEMINAR

### From me to we

Bob Doppelt, Executive Director, The Resource Innovation Group

13 NOVEMBER ▶ MUSIC

### Lunchtime concert

Miloš Milivojevic on accordion

13 NOVEMBER ▶ SEMINAR

### Blast injury clinical research at Centre for Blast Injury Studies: the story so far

Major James Singleton (Bioengineering)

14 NOVEMBER ▶ PUBLIC LECTURE

### Space for everyone

Sir Martin Sweeting, Surrey Space Centre



14 NOVEMBER ▶ SEMINAR

### Novel transcription factors involved in the decision to make haem or chlorophyll

Professor Carl Bauer, Indiana University

15 NOVEMBER ▶ MUSIC

### Lunchtime concert

Andrew Lucas (organ)

21 NOVEMBER ▶ CONFERENCE

### Paediatric anaesthesia

Annual Magill Symposium



22 NOVEMBER ▶ CONFERENCE

### Antimicrobial management and quality improvement

Part of EU Antibiotics Awareness Day

25 NOVEMBER ▶ MUSIC

### Barnardo's benefit concert

Performance by the European Doctors Orchestra

27 NOVEMBER ▶ PUBLIC LECTURE

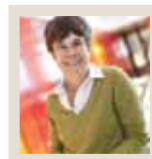
### Clearing the air: asbestos, cigarette smoke and nanoparticles

Professor Terry Tetley (NHLI)

28 NOVEMBER ▶ PUBLIC LECTURE

### It's not oil gone

Professor Ann Mugeridge (Earth Science and Engineering)



## take note

### Teaching and learning workshops

The Educational Development Unit (EDU) has launched a revised programme of 34 workshops for 2012–13. They include practical guides to teaching and learning, opportunities to focus on developing essential skills for those with greater teaching experience, and workshops for staff teaching undergraduate medical students.

For more information visit:  
[www.imperial.ac.uk/edudev/workshops](http://www.imperial.ac.uk/edudev/workshops)

## MEET THE READER



Andrew Czyzewski, Acting Editor of Reporter from 12 November

### What are you doing in the picture?

I am standing next to a turbine made by Rolls-Royce in the Mechanical Engineering Building foyer. I've been working at the oldest engineering magazine in the world, *The Engineer*, and have a long-standing interest in aeronautics and how precise things need to be when they are up in the air.

### What would you do if you were editor of Reporter for a day?

I recently came into contact with some Imperial students who were making some wings that emulated a flying squirrel to test the concept of a new sport described as a 'futuristic quidditch' I'd love to do a feature on this during my year as Acting Editor!

### Who would be your cover star?

I have a passion for photography, so I'd like the chance to take a front cover picture of a cool invention developed by Imperial researchers that has had a massive impact on our everyday life but which we take for granted – like the buttons on ATM pads.

Want to be the next reader featured in Reporter? Send in a picture of yourself with a copy of Reporter in your location of choice to:  
 [reporter@imperial.ac.uk](mailto:reporter@imperial.ac.uk)

## Stay in the loop

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