

Understand this

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EDITOR'S CORNER

On the move

While I was doing some research for the **e-learning** feature on pages 8–9 of this issue, I stumbled across a news article from the *Times Online* published in 2009 which revealed that half of all British children aged five to nine own a mobile phone. Given that mobile phones are no longer just for making calls but are now massively impressive **multifunctional gadgets** offering internet access, a photo library and music-playing capacity, children are used to getting the information they want, when they want it, from a young age. To keep up with expectations, e-learning is becoming a popular approach with students. Using technology such as **interactive slides**, which make a lecturer's commentary available online alongside PowerPoint resources, means students get the classroom experience even when they are out and about with their laptops. See the centre spread to find out more.

EMILY ROSS, EDITOR

Reporter is published every three weeks during term time in print and online at www.imperial.ac.uk/reporter. The next publication day is 29 April. Contact Emily Ross: reporter@imperial.ac.uk +44 (0)20 7594 6715

Cover photograph: Ten-year-old Tina Ahang, from Salisbury Primary School, at the official opening of the Reach Out Lab on 23 March. She wants to be a doctor!

HEFCE grant 2010–11

Imperial has been advised that it will receive the sixth largest total recurrent grant in the country from the Higher Education Funding Council for England (HEFCE) for 2010–11. The grant for 2010–11 sees an increase in funding for research of £3.1 million and negligible change to the College's share of total sector funding for teaching. However, overall the College's HEFCE funding has dropped by 0.7 per cent, equating to around £1 million, due to the withdrawal of moderation funding of £3.9 million, which was received in 2009–10 to prevent that year's grant decreasing compared with the equivalent, unmoderated figure in 2008–09.

"Universities with a critical mass of excellent scientific research groups are essential to the long-term health of the nation."

Rector, Sir Keith O'Nions, said: "HEFCE's allocation of funding for 2010–11 sends an important message with its increased support for institutions carrying out research top-rated (4*) in the 2008 RAE. Universities with a critical mass of excellent scientific research groups are essential to the long-term health of the nation, economic competitiveness and improving quality of life, and it is encouraging that the Council recognises that scarce resources should support the UK's world class research intensive



universities. London has two of the world's top 10 universities, and the UK as a whole has four; that is a situation we should be proud of and strenuously seek to maintain."

New partnership with Sainsbury's to help reduce its carbon footprint

Imperial and Sainsbury's have announced a partnership to work together over the next five years on Sainsbury's plans for future stores.

The partnership aims to research and deliver innovative and practical solutions to mitigate the future impacts of climate change and help Sainsbury's reduce its carbon footprint. The work involves Imperial researchers from the Faculty of Engineering and the Grantham Institute for Climate Change.

Plans are underway to investigate how Sainsbury's stores in the future might provide heat and recycled water to customers' homes, as well as help customers to manage their waste. Other initiatives include the use of 'smart grid' technology to help reduce the supermarket's energy demand, with the potential for eventually taking stores completely off the national grid.

Commenting on the collaboration, Professor Sir Brian Hoskins, Director of the Grantham Institute, said: "This new partnership will bring cutting edge research to mitigate some of the most pressing climate change issues in the consumer retail sector. I welcome the opportunity to work with Sainsbury's, and look forward to the advances that they can make with our input."

The collaboration aims to deliver real outputs and provide the partners with a commercial legacy; the intellectual property of any products or research jointly developed will be commercially owned by the partnership.

—NATASHA MARTINEAU, COMMUNICATIONS



New partners: (L to R) Professor Sir Brian Hoskins (Director of the Grantham Institute), Neil Sachdev (Commercial Director for Sainsbury's), John Ashford (Sainsbury's Head of Engineering) and Professor Nilay Shah (Chemical Engineering and Chemical Technology).

Imperial College
London

Volunteers wanted for 'project parakeet'



A research group in the Division of Biology is conducting a study into the effects of the ring-necked parakeet on native bird species. If you'd like to help the group collect accurate estimates of the current population size of the parakeets there will be a simultaneous count across several roost sites in Greater London on Sunday 11 April.

To volunteer or to give information on a roost location contact: parakeet@imperial.ac.uk

Mandelson opens Reach Out Lab

Lord Mandelson, Secretary of State for Business, Innovation and Skills, visited the College on 23 March to open Imperial's Reach Out Lab – a unique new laboratory specifically for school pupils.

The new facility, developed by Professor Lord Robert Winston, Professor of Science and Society, is a high tech space where children aged from seven to 18 can go to get practical experience of experiments and activities, which also support science teaching within the National Curriculum. Subject experts guide pupils through experiments in the five key STEM (science, technology, engineering and mathematics) areas: physics, chemistry, mathematics, biology and engineering.

Lord Winston said: "What we know from research is that hands-on, practical work, doing experiments, making explosions, is what gets children excited about science. Unfortunately many state schools don't have adequate laboratories or resources to support this level of practical science. That will inevitably have a knock-on effect on the numbers who go on to study science at A-level and university, putting the UK at a disadvantage at a time when science and innovation is of enormous social and economic importance."



Lord Mandelson conducts an experiment in the Reach Out Lab, assisted by Lord Robert Winston. To hear Lord Winston talk about the new facility, visit: www3.imperial.ac.uk/news/reachout

Lord Winston will also use the Reach Out Lab to conduct research on the effect that attendance and participation may have on the long-term opportunities and choices of the pupils involved, by tracking their progress over a 10-year period. The research will also look at whether involvement in the Lab develops the science communication skills of teachers, and whether Imperial students volunteering as Lab mentors become more likely to consider teaching as a career.

—JOHN-PAUL JONES, COMMUNICATIONS

See page 10 to read the story of Reach Out Lab volunteer PhD student Florencia Tettamanti (*Mathematics*).

UK university research worth £45 billion

A new economic impact assessment of university research, presented at a British Academy and Economic and Social Research Council innovation seminar on 16 March, suggests that the £3.5 billion a year currently spent on publicly funded research generates an additional annual output of £45 billion in UK companies.

The new measure, developed by researchers in the Business School and other collaborators, called private sector total factor productivity (TFP), captures for the first time the contribution to output of 'intangible' activities such as new technology, knowledge, skills and design.

The study shows a strong correlation between public spend on research (through the research councils) and increased TFP over 21 years (1986–2007).

Economist Professor Jonathan Haskel, co-author of the study from the Business School, noted that there are two main challenges to working out how university research contributes to productivity: "First, universities openly publish new findings and make them freely available for use anywhere in the economy, so it's hard to follow a payment trail from idea to application," explains



University research represents a good return on public investment.

Professor Haskel. "Second, the private sector also invests in developing new knowledge, so we also need to account for these investments before looking at effects from universities."

Research Councils UK (RCUK) has welcomed the findings of Imperial's paper and said it is "encouraged that the findings support the case for sustained investment in research by highlighting the exceptionally high rate of return achieved by Research Council funding."

Supporting the findings of the study, a report published by the Russell Group this month has found that a sample of 66 breakthrough discoveries at Russell Group institutions, including Imperial, have generated combined wealth of almost £2 billion.

—NATASHA MARTINEAU, COMMUNICATIONS

in brief



Imperial Medicals remain unbeaten

Hundreds of energetic students turned out to fight for their respective side in Varsity matches between Imperial College and Imperial Medicals on 17 March. The day ended with a

bittersweet victory for Imperial College, who won the overall competition but lost once again to Imperial Medicals in the event finale, the rugby match competing for the J.P.R. Williams Cup, which took place at the Old Deer Park, Richmond. The Imperial College side received medals from Rector Sir Keith O'Nions, whilst the Medicals' Captain, Andrew Mowat, was presented with the cup by alumnus J.P.R. Williams.

University Challenge knock-out

Despite an impressive performance over six programmes, Imperial's University Challenge team was knocked out of the competition on 22 March. The team notched up 170 points but St John's, Oxford won with 260. Rector Sir Keith O'Nions said: "Many congratulations for making it to the semi-final. You entertained us, kept us on the edge of our seats and genuinely made us proud."

Read an interview with the team: www3.imperial.ac.uk/news/universitychallenge

Sabbatical elections

The results of Imperial College Union's 2010 sabbatical elections have been announced. Alexander Kendall will take over as President, and the following Deputy Presidents have been elected: Heather Jones (Clubs and Societies), Meera Ganeshadevan (Education), Ravi Pall (Finance and Services), Victoria Masding (Welfare). The new *Felix* Editor is Kadhim Shubber. The sabs will take up their posts on 1 August 2010.

“We really hope to show everyone that we're not a bunch of people hidden in a basement somewhere but that we really try to integrate well with other societies at Imperial, both interfaith and others”

ISLAMIC SOCIETY PRESIDENT SALMAN BUTT ON ORGANISING ISLAM AWARENESS WEEK AT IMPERIAL EARLIER THIS MONTH. TO READ MORE ON THE AIMS OF THE EVENT: WWW3.IMPERIAL.AC.UK/NEWS/ISLAMAWARENESS

Imperial College Healthcare NHS Trust

South African state visit



Mrs Zuma with Consultant in Clinical Oncology, Alexandra Taylor.

During the President of South Africa's state visit to the UK this month, Thobeka Zuma,

his wife, paid a visit to the team at West London Gynaecological Cancer Centre at Queen Charlotte's and Chelsea Hospital, part of Imperial College NHS Trust. The Centre specialises in cervical cancer, which is the most common cancer in women in South Africa. Mrs Zuma spent the morning hearing about prevention and treatment of the disease, and was shown the Trust's cutting edge radiotherapy and brachytherapy equipment.



Brachytherapy

is a form of radiotherapy where a radiation source is placed inside or next to the area requiring treatment.

Mrs Zuma said she was struck by the large differences between South African and UK treatments for cervical cancer. "At home, you have to wait up to six months for treatment," she said. This is compared to the 31-day wait at Hammersmith. "We will eventually get there," Mrs Zuma added, "but it's a big challenge."

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

Transforming Exhibition Road

The project is being led by Royal Borough of Kensington and Chelsea in partnership with TfL and Westminster City Council.



The transformation of Exhibition Road is underway, with repaving work taking place outside the South Kensington Campus. The vision for the £25 million project is to make Exhibition Road the most accessible cultural destination in the world, revitalising the streetscape and ensuring it can accommodate the 11.5 million visitors that flock to the area each year.

The new distinctive street design will see the introduction of a single surface with large, clearly defined pedestrian zones, and will use dark and light granite to create a chequered effect. Other

changes will include the introduction of a 20 mph speed limit on Exhibition Road, the reallocation of parking provision and revised traffic flows, some of which are already in place around South Kensington underground station.

The road will remain open to traffic and pedestrians throughout the project, which is due to be completed in early 2012. The phases of repaving work taking place outside the Main Entrance will be completed by June 2011.

For further information on the Exhibition Road project, visit: www.rbkc.gov.uk/exhibitionroad

Advice when using Exhibition Road:

During the current phase of repaving, traffic is flowing in both directions in the west lane (closest to the Main Entrance) and vehicles are unable to stop along Exhibition Road. Specific advice for staff and students is as follows:

- Look both ways when crossing to the central reservation from the Main Entrance.
- Pre-booked taxis should be instructed to pick up passengers from the Taxi Point on Imperial College Road by the Library.
- Taxis dropping off passengers and delivery drivers should be advised to drive into Imperial College Road.

Ten medals for Imperial at the BUCS Championships

Imperial has leapt up the British Universities and Colleges Sport (BUCS) leagues to fourteenth place, thanks to over 200 points gained in the championships held in Sheffield between 9–13 March.

Imperial students competed in over 12 sports, gaining 10 medals – six of which came from the judo team.

The championships kicked off with futsal, a variant of football that is played on a smaller playing surface, mainly indoors. After battling their way through a number of tough matches Imperial's men's team lost out in their last game to Leeds Met 7–6 on penalties but finished with a place in the national top eight.

The women's and men's fencing teams made it through to the finals but lost out on the gold medal. However success was in store for Hannah Bryars (a fourth

year medical student interviewed in *Reporter* issue 216), who became player of the tournament, and second year engineering student, Marcello Colombino, who was awarded the fair play award.

Judo was the highlight of the weekend for Imperial, with both male and female representation in the individual and team competitions. First year engineering student Alex Murphy dominated the men's under 66kg kyu class, while fresher Ualikhan Yesbolov, a post-graduate in the Department of Earth Science and Engineering, brushed away challenges in the 90kg class. Both won gold medals and were joined in their success by Tom Zamacinski who won the third judo gold for Imperial in the under 81kg kyu class.

—SAMANTHA BELL, SPORT IMPERIAL



The Imperial College Fencing Squad with their silver medals and Sport Imperial mascot. The team will hear the final results of the BUCS rankings at the end of the year.

media mentions

—COLIN SMITH, COMMUNICATIONS



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www.imperial.ac.uk/media/jointsignup

DAILY MAIL ▶ 23.2.2010

Why one HobNob just isn't enough!

Why is it so hard to stop eating just one biscuit and so easy to finish off the packet? Speaking to the *Daily Mail*, Dr Carel Le Roux (Medicine) says that fructose, which is a sugar derived from fruit, may be to blame. Fructose is mixed with corn syrup and used in processed foods such as fizzy drinks and biscuits to make them sweet and last longer. Fructose gives us confused messages about satiety, explained Dr Le Roux: "When we eat sugar, our body releases insulin which tells the brain that we have had enough to eat. High insulin levels are one of the factors that dampen the appetite." He said: "However, fructose doesn't trigger as much of an insulin response as regular sugar, so the brain doesn't get the message that you are full."



NEW SCIENTIST ▶ 25.2.2010

World's most sensitive neutrino experiment begins

An intrepid subatomic particle has travelled through the bedrock of Japan and triggered a detector on the other side of the country, heralding a new attempt to probe the mystery of neutrino oscillations. The result could take researchers closer to answering one very big question – why is the universe full of matter? Explaining the approach researchers are taking, Professor David Wark, Chair in High Energy Physics in the Department of Physics, said to *New Scientist*: "We will be able to look for the appearance of electron neutrinos in a muon neutrino beam much more sensitively than has been done before. [The new experiment] is 10 times as sensitive as previous ones."

FINANCIAL TIMES ▶ 1.3.2010

Dragon's Den turning scientists into entrepreneurs

A *Dragon's Den* competition, modelled on the popular venture capitalist television format, was the climax of a Business of Science programme put on by the Imperial College Business School for the Royal Society's University Research Fellows at the beginning of March. "It is not just about turning scientists into entrepreneurs," said Professor David Gann (Business School) speaking to the *Financial Times*. "Many of the Royal Society fellows will not be interested in setting up businesses themselves but they need to know what questions to ask when others want to commercialise their research – or what to do when they make a patentable discovery."



TCE TODAY ▶ 8.3.2010

Imperial spin-out is sold off

Membrane Extraction Technology (MET), an Imperial spin-out company that makes membranes for separating liquids and gases in industrial processes, has been acquired by the German chemicals company Evonik. The deal was finalised on 1 March and will see Evonik gain MET's separation technology, which will be used for the pharmaceuticals and fine chemicals industries. Speaking to *TCE Today*, Professor Andrew Livingston (Chemical Engineering and Chemical Technology), MET's CEO, said: "The synergies between MET and Evonik make a compelling case for this excellent deal and will make the combination company a leading player in organic solvent nanofiltration."



awards and honours

ENGINEERING

Professor Higgins recognised for outstanding work



Professor Dame Julia Higgins (Chemical Engineering and Chemical Technology), former Principal of the Faculty of Engineering, has been announced as one of the UK Resource Centre's Women of Out-

standing Achievement 2010 for her inspirational leadership within science, engineering and technology. In honour of her achievements, Professor Dame Julia's portrait was unveiled at the launch of an exclusive exhibition at the Royal Academy of Engineering on 18 March.

ENGINEERING

Peer recognition in US

Professor Guang-Zhong Yang (Computing) was inducted into the American Institute for Medical and Biological Engineering's College of Fellows on 5 March 2010. Professor Yang was nominated by his peers for his contributions to magnetic resonance imaging, which is a technique used in radiology to visualise the inside of the body. He was also recognised for his pioneering

efforts in body sensor networks, which use miniature wireless technology that can be used to monitor vital signs in the body, and for his work in robotic surgery.

NATURAL SCIENCES

Chemistry summer students recognised

A sixth form student, who completed a summer research project in Imperial's Department of Chemistry, has won a prestigious award at the Big Bang UK Young Scientists' and Engineers' Fair held on 11–13 March in Manchester. Hattie Jones, from the Abbey School in Reading, received the science prize in the National Science and Engineering Competition's intermediate age category for her four weeks' work with Professor Nick Long

and PhD student, Chloe Child. Ellie Ogilvie, from St Paul's Girls' School, was a runner-up with her summer project on water soluble metal compounds for applications in catalysis, which she also completed in the Department of Chemistry with Dr James Wilton-Ely and PhD student, Saira Naeem.

ALSO...

Driver recognised for social sciences contribution • Professor Ciaran Driver, Professor of Economics (Business School), has been named as an Academician of the Academy of Social Sciences for making a distinguished contribution to social sciences. Professor Driver specialises in capital investment and the political economy and external effects of investment.

Asteroid killed off the dinosaurs



The Cretaceous-Tertiary mass extinction, which wiped out the dinosaurs and more than half of the species on Earth, was caused by an asteroid colliding with Earth and not massive volcanic activity, according to a comprehensive review of all the available evidence, published in the journal *Science* on 4 March.

A panel of 41 international experts, including researchers from Imperial, the University of Cambridge, University College London and the Open University, reviewed 20 years worth of research to determine the cause of the Cretaceous-Tertiary

(KT) extinction, which happened around 65 million years ago. The extinction wiped out more than half of all species on the planet, including the dinosaurs, birdlike pterosaurs and large marine reptiles, clearing the way for mammals to become the dominant species on Earth.

The new review of the evidence shows that the extinction was caused by a massive asteroid slamming into Earth at Chicxulub in Mexico.

Dr Joanna Morgan (Earth Science and Engineering), co-author of the review, commented: “We now have great confidence that an asteroid was the cause of the KT extinction. This triggered large-scale fires, earthquakes measuring more than 10 on the Richter scale, and continental landslides that created tsunamis.”

Dr Gareth Collins (Earth Science and Engineering), another co-author of the review, added: “The KT extinction was a pivotal moment in Earth’s history, which ultimately paved the way for humans to become the dominant species on Earth.”

—COLIN SMITH, COMMUNICATIONS

To see a video about the new research visit: www3.imperial.ac.uk/news/asteroid

Some morbidly obese people are missing genes

A small but significant proportion of morbidly obese people are missing a section of their DNA, according to research published in *Nature* on 3 February. The authors of the study, from Imperial and 10 other European centres, say that missing DNA such as that identified in this research may be having a dramatic effect on some people’s weight.

According to the new findings, around seven in every 1,000 morbidly obese people are missing a part of their DNA, containing approximately 30 genes. The researchers did not find this kind of genetic variation in any people of normal weight.

People inherit two copies of their DNA, one from their mother and one from their father. Sometimes, missing one copy of one or several genes – as in the individuals identified in this latest study – can have a drastic effect on the body.

The new research is the first to clearly demonstrate that obesity in otherwise physically healthy individuals can be caused by a rare genetic variation in which a section of a person’s DNA is missing. The research-



ers do not yet know the function of the missing genes, but previous research has suggested that some of them may be associated with delayed development, autism and schizophrenia.

Professor Philippe Froguel (Public Health), lead author of the study, said: “It is becoming increasingly clear that for some morbidly obese people, their weight gain has an underlying genetic cause. If we can identify these individuals through genetic testing, we can then offer them appropriate support and medical interventions, such as the option of weight loss surgery, to improve their long-term health.”

—LUCY GOODCHILD, COMMUNICATIONS



Targeting respiratory diseases in pigs

A research consortium has been awarded a £5 million grant from the Biotechnology and Biological Sciences Research Council (BBSRC) to develop a way to diagnose key respiratory diseases in pigs and create a new vaccine.

The BBSRC Longer and Larger (LoLa) grant was awarded to researchers at Imperial, the University of Cambridge, the Royal Veterinary College and the London School of Hygiene and Tropical Medicine for a six-year project.

The researchers will be targeting four of the most common bacterial infections in pigs: *Actinobacillus pleuropneumoniae*, *Haemophilus parasuis*, *Mycoplasma hyopneumoniae* and *Streptococcus suis*, the last of which can also cause septicaemia and meningitis in humans, especially in people who work with pigs.

At the moment, these bacterial diseases, which are a major animal welfare issue and cost the pig industry millions of pounds every year through both morbidity and mortality, are hard to diagnose. Some strains of a particular bacterium cause disease while others do not, but there is no reliable test to distinguish between them. Current vaccines are poor because they only work against a few strains and do not prevent bacteria spreading from pig to pig.

Commenting on the need for the research, consortium coordinator Professor Paul Langford (Medicine), said: “The worldwide economic and welfare burden of bacterial respiratory diseases in pigs is enormous, but controlling infection is hampered because we have neither an effective vaccine, nor good diagnostic tools.”

BBSRC introduced LoLa grants in 2006 to encourage multidisciplinary research proposals.

—UNIVERSITY OF CAMBRIDGE PRESS OFFICE

Insight into failing heart cells

Researchers have been able to see how heart failure affects the surface of an individual heart muscle cell in minute detail, using a new nanoscale scanning technique developed at Imperial. The findings may lead to better design of beta-blockers, the drugs that can slow the development of heart failure, and to improvements in current therapeutic approaches to treating heart failure and abnormal heart rhythms.



Heart failure is a progressive and serious condition in which the heart is unable to supply adequate blood flow to meet the body's needs. Hormones such as adrenaline, which are activated by the body in an attempt to stimulate the weak heart, eventually produce further damage and deterioration.

In the new study, published in the journal *Science* and funded by the Wellcome Trust and the Leducq Foundation on 25 February, researchers were able to analyse individual regions on the surface of the heart muscle cell in unprecedented detail, using live nanoscale microscopy.

They used a new technique

called scanning ion conductance microscopy, which gives an image of the surface of the cardiac muscle cell at more detailed levels than those

possible using conventional live microscopy.

Dr Julia Gorelik (NHLI), corresponding author of the study, said: "Our new technique means we can get a real

“We can get a real insight into how individual cells are disrupted by heart failure”

insight into how individual cells are disrupted by heart failure. Using our new nanoscale live-cell microscopy we can scan the surface of heart muscle cells to much greater accuracy than has been possible before to see tiny structures that affect how the cells function.”

—LAURA GALLAGHER, COMMUNICATIONS

Immune cells use bungee of death to kill dangerous cells

Immune cells can ensnare dangerous cells that are on the run with a bungee-like nanotube, according to research published in the *Proceedings of the National Academy of Sciences* on 8 March. The study by Imperial researchers shows that natural killer (NK) cells use this bungee to destroy cells that could otherwise escape them.

NK cells are our first line of defence against dangerous cells, such as tumour cells and cells infected with bacteria and viruses. Researchers are keen to understand how NK cells work because they help the body to fight infection and stop tumours from growing. It is thought that it may ultimately be possible to design drugs that harness the cells' ability to fight disease.

Prior to the new study, it was already known that NK cells can kill their target cells by attaching to them and forming a connection called an immune synapse, which they use to pass toxic molecules into their target. However, sometimes the target cells move away from the NK cells to escape being killed.

Professor Daniel Davis (Cell and Molecular Biology) describes how new video footage of NK cells challenges

“They also tether cells with long membrane connections and can pull diseased cells back into contact.”

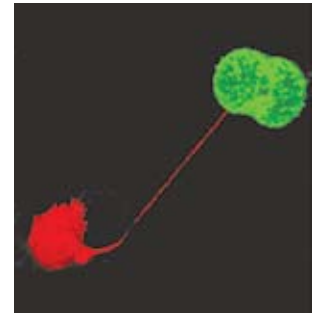
previous assumptions: “Natural killer cells are cells that are really good at killing

tumours and virus-infected cells. It was thought they kill these diseased cells only by sticking to them tightly for several

minutes. These new movies show that, in fact, they also tether cells with long membrane connections and can pull diseased cells back into contact. We think they may also use these nanotubes to kill them from a distance.”

—LUCY GOODCHILD, COMMUNICATIONS

To see videos of the NK cells: www3.imperial.ac.uk/news/bungee



Natural killer cells create a connection called an immune synapse, through which they pass toxic molecules to kill their targets.

Imperial paper voted a ‘must read’ of 2009

A study explaining how thousands more people in Africa could be treated for HIV if routine expensive lab tests were abandoned has been highlighted as one of the ‘must read’ papers of 2009 by readers of medical journal *The Lancet*.

The study, which was co-authored by Imperial's Professor Charles Gilks (Medicine), was runner-up out of eight international research papers shortlisted for *The Lancet's* Paper of the Year award, which celebrates

new directions in practice and investigation in clinical research.

The paper, published online on 9 December 2009, was authored by the Development of Anti-Retroviral Therapy in Africa (DART) trial team, which included Professor Gilks, from Imperial's Depart-

ment of Medicine and now UNAIDS.

Entitled *Routine versus clinically driven laboratory monitoring of HIV antiretroviral therapy in Africa (DART): a randomised non-*

inferiority trial, the paper revealed the results from one of the largest ever trials of HIV therapy in Africa. It found that with existing funding levels, up to a third more people could be effectively treated for HIV if expensive laboratory tests are used only when there is a clinically indicated need. At present, these tests are routinely used for monitoring anti-retroviral therapy, toxicity, patient side effects and disease progression.

Professor Peter Piot, Director of the College's Institute for Global Health, said: “I hope the trial will influence HIV programme policies,

so that patients in rural areas have access to treatment and therefore adhere to drug regimens, despite living far from a clinical laboratory.”

—COLIN SMITH, COMMUNICATIONS



The study reveals the results from one of the largest ever trials of HIV therapy in Africa.



e-learning among the 'digital natives'

A recent survey has found that young people are spending seven hours and 38 minutes every day consuming all types of media – almost the same amount of time that most adults spend at work each day. In order to appeal to these 'digital natives', lecturers across the College have introduced a range of online learning resources. *Reporter* discovers how creative use of e-learning is helping to encourage collaborations, provide flexible learning and instant feedback, and make learning more fun.

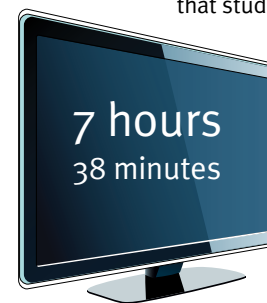
Professor Julia Buckingham, Pro Rector (Education), explains that today e-learning plays an important role in the College's strategy and it is an area she is keen to see developed. "E-learning goes far beyond just posting lecture notes on an interactive blackboard. It encourages students to be independent as they have immediate and autonomous access to materials. This means teaching and learning is no longer confined to a fixed place and time."

Mark Lethby, a third year medical student, explains how the flexibility of e-learning is particularly pertinent to his degree: "As clinical medics, we are spread across a range of hospitals. We're often on call at different times, so as a group, we end up with totally different timetables. With e-learning that doesn't matter though because we can pick and choose when we have our lectures; they're waiting for us online." Using Imperial's online learning platform, Blackboard, students are able to access PowerPoint slides alongside audio tracks which feature the lecturer talking about each slide. Students can pause and rewind the lecture, to spend longer on the slides they find hard, and they can also go back and relive the lecture when it's time to revise.

Professor Buckingham comments: "While e-learning is no replacement for face-to-face tuition, it is a very valu-

able tool for students to enhance their understanding at their leisure." Mark says he finds the process helpful as he is able to get immediate feedback on his performance. "Every week we're given online tests that have to be done by a certain time. You choose from multiple choice answers on the screen, but there are also sections where you have to type your answer and the software's advanced enough to mark these bits, meaning you get your score as soon as you've finished." Last year, the College ranked 92nd in the feedback section of the National Student Survey – a national census of students in the final year of higher education courses. E-learning could provide one avenue to improve the College's performance.

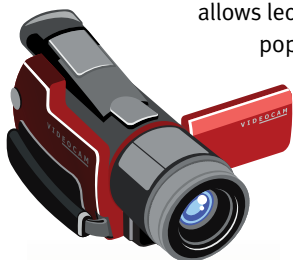
In addition to e-learning programmes that students use to progress their individual learning, lecturers are also using online networking and discussion tools to support and encourage collaborative learning across the globe. Stephan Reichenberger, who is studying for an MSc in Management at the Business School, explains that the e-learning component of his course helped to prepare him for his MSc by introducing him to the subject and his fellow students. Three months before the MSc started, all the students were given course materials to study online, with introductory videos by tutors and a series of interactive slides, where



Young people are spending seven hours and 38 minutes every day consuming all types of media – almost the same amount of time that most adults spend at work each day.
— Kaiser Family Foundation

students could click on certain bits for more detailed explanations. “Another really useful feature of the e-learning package was the online forums open to everyone who would be starting the course in October and their future mentors,” he says. “It was great as you had people around the world logging on to start preparing for the course. All the questions we’d be putting on to the forum were answered within a day and as we started chatting online, we ended up making friends before we’d even arrived,” Stephan adds.

Another benefit of e-learning is that it allows lecturers to use popular websites, such as video sharing website YouTube, to make learning more fun and relevant to students. Finlay McPhail, a second year student in civil engineering, describes how, for the first project on his degree, his lecturers set the class a challenge to look at the engineering behind some of the major London



“We were divided into teams and sent off with mini video cameras to make three-minute films...” Results were posted using the video sharing website YouTube.

landmark buildings using YouTube. “We were divided into teams and sent off with mini video cameras to make three-minute films from the buildings themselves, with the help of students in the year above. Thinking about that visual side, and trying to squeeze everything into those three minutes, was a really useful introduction to communicating and explaining research effectively.”

Game-based learning is another method Imperial lecturers are employing to engage students, providing them with an all important appreciation for what it will be like working in their chosen field in the real world. For example in the Faculty of Medicine, students are able to assess patients in the free 3D virtual world of Second Life and in the Business School students are using a project management simulation, where they are put in a workplace scenario and have to make decisions, like how many staff to hire or what the biggest spending priority is, all of which have an effect on the project’s success.

Education Day

Professor Omar Matar (Chemical Engineering and Chemical Technology) is the College’s e-learning Strategy Committee Chair and, while he is a keen supporter of online resources, he says: “The goal should never be to apply e-learning technology indiscriminately, but to identify where it can bring real improvement in order to deliver the highest quality of education.” In order to share best practice and to identify some of these opportunities, e-learning has been chosen as one of the focuses of Imperial’s Education Day at the South Kensington Campus on 20 April. The day, organised by the E-learning Strategy Committee and the Educational Development Unit, will focus on the role of teaching in the College covering topics such as supporting PhD students, the role of undergraduate teaching assistants and how best to engage students. The second half of the day will feature talks on creating reusable digital course content and classroom technologies and there will be exhibition of learning technology running all day in the Sir Alexander Fleming Building. This will provide an opportunity for people curious about different technologies, such as flip videos, online peer assessment and Virtual Learning Environment – a software system often used for assessment such as automatic marking – to drop in and try out things for themselves. They will also be able to talk to learning technologists who will be on hand to demonstrate and

“E-learning provides the perfect platform for [teaching staff] to use their creativity in the way they educate”

answer questions to show how accessible e-learning is. “We don’t want people thinking, ‘Oh God, what is this e-learning?’ with mental images of it being boggy and complex”, says Omar. “On Education Day we want to showcase a number of exciting ways we are already using e-learning at Imperial and show how easy it is to apply these resources. We have a lot of really innovative staff at the College. We want to show that e-learning provides the perfect platform for them to use their creativity in the way they educate.”

—JOHN-PAUL JONES AND EMILY ROSS, COMMUNICATIONS

For more information about Education Day, including a timetable, visit www.imperial.ac.uk/edudev/edday2010 or see Events Highlights on page 16 of this issue of Reporter.

E-learning explained

Your guide to e-learning initiatives across the College

► **Articulate** is a software package which provides a quick and simple way of producing interactive Flash-based quizzes, assessments and surveys using templates that can be easily customised. The Faculty of Medicine is currently using Articulate to create e-modules for undergraduates.



► **Blackboard**, the College’s VLE (virtual learning environment), is used widely across the College as a portal for finding electronic bulletins, lecture notes and PowerPoint slides, discussing work via chat rooms and forums, and submitting work for assessment.

► **Clickers** are versatile electronic multiple choice devices that help provide instant feedback on what students are learning. The system allows students to respond to questions posed by a lecturer, and lecturers to view student feedback in real time, giving them a chance to modify instruction based on individual student or group responses.



► **Interactive whiteboards** can be used to display your computer on a board at the front of the classroom. Everything that is used on that computer can be shown on the board to a class, from CD ROMs and Word documents to PowerPoint files, the internet or specialist software for a subject area.

► **Second Life** is a virtual reality learning tool which users operate through an avatar and which creates new learning opportunities for Imperial medics. The virtual Imperial campus contains teaching hospitals, lecture theatres and a virtual Sir Alexander Fleming Building.



Dave Taylor (Surgery and Cancer) ‘pictured’ with Lord Darzi’s Da Vinci robot in Imperial’s *Second Life*.



Coming full circle

Inside the new Reach Out Lab on the South Kensington Campus, school children with saucer-wide eyes take in all the high tech equipment, brightly coloured lockers, labelled with elements from the periodic table, and lab coats lining the wall as they embark upon a day full of inspirational experiments with the help of Imperial mentors.



Reporter speaks to PhD student Florencia Tettamanti (Mathematics), one of the mentors in the Reach Out Lab, who first experienced life at the College when she was 14 and attended a summer outreach programme for year nine students in 1999.

Florencia was offered a place on Imperial's three-day residential summer outreach programme 'Reach For the Sky' as part of the Gifted and Talented Programme at Holland Park School – a scheme established by the UK government to improve education for gifted and talented young people.

Unlike her experience of science at school, where there was limited lab space and sparse opportunity for experiments, at Imperial she was given the opportunity to work in a high tech lab with advanced fume cupboards, glass equipment and micro-pipettes. "It was

the kind of scene you might see in a news report but could never actually imagine yourself being inside," she remembers. "This was all topped off with the need to wear safety glasses and lab coats at all times, which made me feel like it was the 'real deal!'"

“Until I came to the College I had no idea how dynamic science could be”

One of the activities which stood out for Florencia during the summer school involved DNA fingerprinting. The group was given DNA extracts taken from fish and had to sequence them, to decide whether or not a company was selling the fish it claimed to be selling. She remembers proudly taking home Agar gel (a gel used in microbiology) with her DNA fingerprints on it to show her parents what she had been up to.

Florencia says that her experience convinced her to pursue science at a higher level and to apply to Imperial to study mathematics. "Until I came to the College I had no idea how dynamic science could be – the workshops showed me just how many things are still open for debate and gave me a focus for the future."

When Florencia started at the College in 2003 she was keen to get involved in extra-curricular outreach

activities and pass on her enthusiasm for science to others. She remembers being really impressed by the undergraduate mentors who helped out with the summer schools, as they were the ones who really brought science alive for her. Since she started at Imperial Florencia has helped out on a number of summer schools, has volunteered in local schools on Wednesday afternoons to do maths workshops as part of the Pimlico Connection, and has now started volunteering in the Reach Out Lab.

Before the Lab was set up, Outreach struggled to find space to accommodate school pupils during term time. Florencia thinks it's really important that activities will now be able to happen throughout the year. "It's one thing to be told that 14,000 students study at Imperial but it's another thing to see all the students rushing around. It really helps put into perspective just how many people love science."

Having benefited from outreach activities Florencia finds it easy to relate to the school children. She enthuses about the high tech equipment in the Reach Out Lab and the AV screens which enable the children to see what is going on wherever they are sitting. "Everything in the Reach Out Lab is so new in comparison to what the kids have at school. When the students come in they spend some time looking around in shock! Not to mention the fact they can actually touch and have a go at using all the equipment and do science experiments too. It is really exciting – from the pristine white lab benches to the noise of the experiments – these are the type of details which really make an impression on a child."

Once she has finished her PhD Florencia plans to go on to do a postdoc and continue to enthuse others about mathematics and science. "I want students to feel that science is a worthwhile subject and, even if we can't convert all of them to choose to study science at a higher level, I hope they will gain an appreciation for the subject and the advancements it enables that are essential for society."

—EMILY ROSS, COMMUNICATIONS

If you want to volunteer in the Reach Out lab contact outreach@imperial.ac.uk

inside

story

mini profile

Danny Altmann

Professor Danny Altmann heads the Human Disease Immunogenetics group in the Department of Medicine, which includes both scientists and clinicians working on questions of basic immunology. He speaks to *Reporter* about tackling bioterrorism and anthrax in goat herders.

Can you describe the type of research your group conducts?

The group looks at two types of white blood cells involved in the body's defences, T lymphocytes and natural killer cells, and the ways in which their receptors recognise their targets in various settings to turn the cells on. The researchers work on a range of conditions from the autoimmune disease multiple sclerosis to looking at the immunology of bacterial infections, such as anthrax.

Is your anthrax research linked to bioterrorism?

In 2001 the US government allocated a large amount of funding to research microorganisms that were perceived as a potential threat if harnessed for use in bioterrorism. Multi-million dollar grants went to two European labs, ours being one of them. The programme of work ended up encompassing infections such as anthrax, plague, Ebola virus, Dengue virus and West Nile virus.



Are there other contexts for your anthrax research?

One of the postdocs in the lab, Beckie Ingram, travelled to the mountainous Kayseri region in rural Turkey to look at the immunity in shepherds and goat herders who'd been hospitalised with anthrax skin infections caught from their livestock. Beckie linked up with infectious disease doctors there, collecting blood samples from the patients and then doing detailed analysis on T-cell memory responses in a makeshift lab she set up. Her work on this has just been published and sheds new light on our understanding of how anthrax affects the immune system.

What's next for your research?

We have just received \$5.5 million from the National Institutes of Health in America for a follow-on programme. Our new award is to study the T-cell immunology of sepsis caused by a bacterium called *Burkholderia* which is common in Thailand, Laos, Cambodia and parts of Northern Australia.

—EMILY ROSS, COMMUNICATIONS



Technology in Medicine and Surgery conference

On 13 February the first ever Technology in Medicine and Surgery event was held at the College, bringing together students from a wide range of disciplines to help them see how doctors, engineers and scientists can work together to improve healthcare. Claudia Craven, a third year medical student, and Joseph George, a fifth year medical student, who helped organise the event, report:

"Whilst Cupid was at play on Valentine's weekend, Imperial College School of Medicine Surgical Society hosted the first ever Technology in Medicine and Surgery conference on the South Kensington Campus. Students from around the UK and Europe attended a series of talks and exhibitions, including work from Imperial researchers Dr Antonio Vilches and his team, an innovation workshop courtesy of Imperial Innovations, plus a student *Dragon's Den* competition.

Dr Roger Armour, a retired vascular surgeon, spoke of his love of the retina and his user-friendly lens-free ophthalmoscope. This invention proved popular, with students examining each others' retinas at the post conference dinner! Other inventions included Smart Pods (ambulances of the future designed to



Jitin Verma (fifth year medical student) using the lens-free ophthalmoscope on its inventor, Mr Roger Armour, a retired vascular surgeon.

park up anywhere, providing immediate on-the-spot treatment facilities for patients), and a 3D anatomy demonstration, care of Primal Pictures Ltd, which helps to show patients where their problem is and why they are experiencing pain when they move.

The day finished with an inspirational talk on the pioneering work of single incision laparoscopic surgery (an operation performed in the abdomen or pelvis) by St Mary's-based consultant surgeon, Mr Paraskevas from the Department of Surgery and Cancer. We really hope the conference motivated students into realising their vision for the future of medicine and surgery."

For more information about the event visit: www.imperialtims.org

▶ SCIENCE FROM SCRATCH

As explained by Seil Collins, MSc Science Communication



Electrolysis

In the early nineteenth century, whilst attempting to reproduce Alessandro Volta's experiment to create the first electric battery, English chemist William

Nicholson added water to facilitate the connection between the metallic plates and the electroscope. To his surprise, hydrogen gas appeared. He then connected the battery plates to a sample of water and oxygen appeared. This was how Nicholson discovered electrolysis.

Electrolysis is the process of using an electric current to drive a chemical reaction. The electric current passes through two metal plates into a liquid ionic substance. Atoms and ions interchange as they remove or add electrons from the external circuit. Electrolysis has been found to have many applications. In 2005, a Japanese scientist found that electrolysis could simulate the natural process of wine ageing.

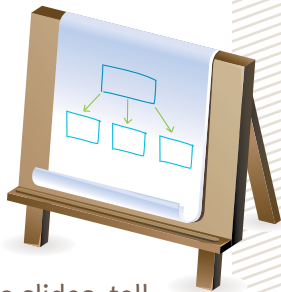
Is there a phrase or term you would like us to explain? ✉ Email the editor: reporter@imperial.ac.uk

IMPERIAL STUDENTS SHARE THEIR EXPERIENCES OF LIFE AT THE COLLEGE ON THE STUDENT BLOGGERS WEBSITE.

Student blogger Corrie on presentation skills:

blog SPOT

Finally! The design study has been handed in! This doesn't mean we are finished with the project by any means – the final deadline is 6 May, eep! Friday is the deadline for a business plan and a presentation (which I should be writing now, but the pressure of not having written a blog for like three days is seriously getting to me). My group were a bit astonished when I told them they were only allowed one slide per minute, but experience shows that this is more than enough. If you don't believe me, the next time you try to talk for three minutes with 10 slides, tell me how it goes for you.



www.imperial.ac.uk/campus_life/studentblogs

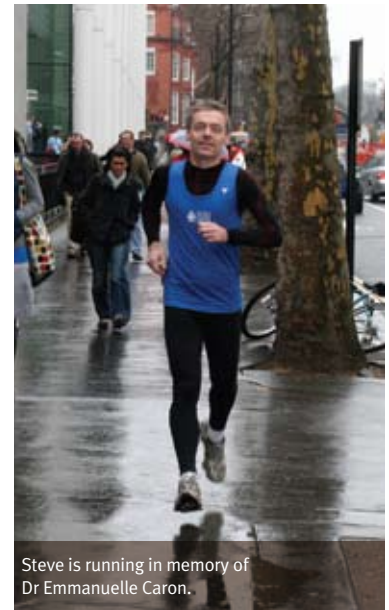
Professor running for charity in 2010 London marathon

Professor Steve Matthews (Life Sciences) will be running in the 2010 London marathon on 25 April in memory of Dr Emmanuelle Caron, a former colleague in the Department of Life Sciences. Emmanuelle died last year after a brief and sudden illness. Steve reports on his training progress:

"This is my first ever *full* marathon. Training is going well; so far I have run over 500 kilometres this year, largely between home and Imperial and picking my kids up from school! I'm aiming for my longest training run this month, taking in all the Imperial west London campuses (about 22 miles – apologies to Silwood Park!). Running allows my thoughts to wander freely and often my best ideas come during a long session. I am particularly passionate about running in memory of Emmanuelle as she was not only an expert in her field, but a true ambassador of the human side to scientific discovery – an often undervalued element.

I'm raising funds for the Royal Marsden Cancer Campaign which supports the treatment and care of patients with cancer. Donations will also go to UNICEF,

"I'm aiming for my longest training run this month, taking in all the Imperial west London campuses"



Steve is running in memory of Dr Emmanuelle Caron.

which supports the health and education of children all around the world suffering the effects of extreme poverty. I am hoping to rack up more than just miles; so far I've raised over £2,000 and I am hopeful for more before the big day.

To sponsor Steve please visit: www.virginmoneygiving.com/stephenmatthews

cross culture



Rwandan culture

by Dr Alex Kabahizi, MSc student, International Health Management (Business School)

"I am Rwandan by birth and have lived in the UK since 2005. Before coming to the UK, I studied medicine at Makerere University Medical School in Kampala, Uganda, where I specialised in infectious diseases. I then worked in Mulago Hospital, gaining valuable experience of treating infectious diseases. I recently joined Imperial's International Health Management MSc. When I complete my studies, I would like to return to Rwanda or another country in Africa and use my expertise and experience to contribute to the health services there.

Rwanda according to Alex

Music and dancing • Music and dancing are very important to us. Our dances show great acts of bravery and excellence from our history and folklore. The most famous of our dancers are the Intore, with their distinctive mane-like headgear. The Intore dancers are usually strong young men and their traditional dances were performed in the royal courts of the Rwandan king for hundreds of years.

Weddings • Wedding ceremonies are jovial times in Rwanda when relationships between families are strengthened and cemented. Prior to the actual wedding ceremony, we embrace the tradition of the Gusaba (introduction ceremony) in which the skills and wits of the groom's family are put to the test to judge if he is able to protect and take care of the bride to be. If the bridegroom is found worthy, traditionally he has to honour the family of the bride with a gift.

Future • I feel very proud to be Rwandan. My country has had some terrible times, but we have worked hard to overcome our past and become stable. I am very optimistic about Rwanda's future – our economy is growing, and the government has invested heavily in education, allowing many children to go to school who couldn't before.



Before a Rwandan wedding the bridegroom often makes a gift to the bride's family – cows are a popular choice.

About cross culture

Cross culture is a scrapbook for staff and students to fill with their local recipes, cultural traditions and experiences of moving from another part of the world to work or study at Imperial.

✉ To contribute to cross culture please send your ideas to reporter@imperial.ac.uk



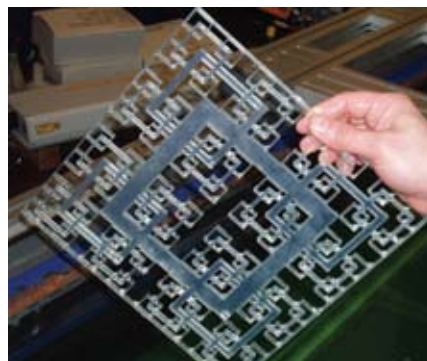
INVENTOR'S CORNER

Fractal thinking

Professor Christos Vassilicos (Aeronautics) on how he is creating 'bespoke turbulence' to address a range of problems from ventilating buildings more efficiently to reducing the noise of aircraft.

What's the basis of your research?

My team has developed a way to design turbulent flows by using fractal grids – structures made of repeating shapes that continually fit inside themselves.



What applications could your research have in our homes?

I'm working with Dr Gary Hunt (Civil and Environmental Engineering) to address the problem of ventilating buildings without wasting the energy created within them. We're looking at creating a new style of window or opening, using fractal grids to develop the shape as that has a major influence on how the air moves through the opening. This will help save energy.

How might industry benefit from using fractal grids?

One example is in the way companies mix food or liquids, which can be a huge drain on a company's resources. Working with Dr Hunt I am looking at using fractal stirrers (pictured top right) to provide maximum mixing using minimal power.

Are there applications for how energy is generated?

Today there is a move towards using lean mixtures for combustion. These mixtures

are more environmentally friendly but are typically harder to burn. I'm working alongside Dr Frank Beyrau, Professor Alex Taylor and Professor Yannis Hardalupas (Mechanical Engineering) on using fractal combustors to mix fuel more efficiently and aid combustion.

Are there other projects benefiting from your fractals research?

Another related line of research is with Dr Bharathram Ganapathisubramani (Aeronautics) where we are focusing on the development of silent air brakes or spoilers using fractal grids. We're aiming to shift the aero-acoustic noise to higher, quieter frequencies, without damaging drag or lift properties.

What lies ahead?

Imperial Innovations is helping to license the technology to designers of gas turbines and manufacturers of inline mixers (components which mix liquids or gases).

—ANUSHKA WARDEN, IMPERIAL INNOVATIONS

course review



By course attendee Susan Brace,
Senior Research Group Administrator
(Electrical and Electronic Engineering)

Spanish for beginners

1 Why did you go on the course?

I have worked at Imperial for many years and every October I have thought about taking one of the Humanities courses to learn a new language, but I wasn't sure I'd be able to commit to evening classes for a whole year. When I saw the five-week intensive courses advertised, I thought this would be the perfect solution. I chose Spanish, as I was taking a holiday there last summer and thought it would be useful.

2 What did you learn?

There was lots of class participation, which helped us gain the confidence to actually speak the language, and the class size was just right. Our teacher, Celia Martin Perez, was excellent. She made the classes interesting and fun by using lots of different resources and techniques for remembering vocabulary.

3 Would you recommend the course?

The course content was perfect for someone wishing to visit Spain and find their way around. I did use some of the helpful phrases we learnt on my trip to Spain, and would recommend this course to anyone looking for a taster of a new language and a bit of fun.

For details of the summer evening courses being run from the week beginning 24 May visit:
www.imperial.ac.uk/humanities/eveningclasses

Sticking to convention



Hilary Glasman-Deal is an English teacher in the Department of Humanities where she helps non-native English speaking MSc and PhD students to actively participate in the international academic research community. Hilary describes a new book she has written called

Science Research Writing for Non-Native Speakers of English, based on material she developed from

teaching graduate students at Imperial.

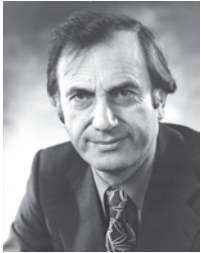
"When your language skills aren't perfect, it is important to organise your information in a conventional way and use conventional language so that the science can be easily 'decoded' by researchers worldwide. My book offers a template for research writing as well as a section which provides students with the grammar and vocabulary needed to operate that model. It has a descriptive rather than a prescriptive approach and focuses on describing

"It is important to organise your information in a conventional way...so that the science can be easily 'decoded'"

how good native speakers write. Verb tense confusion is particularly problematic for non-native English speakers. I sometimes see researchers 'losing' chunks of their own work because their carelessness with verbs has released ownership of their research to another researcher. Through my work teaching at Imperial I've seen you don't need to spend ages learning English to do it well, you just need to be able to identify and operate the conventional writing patterns in your field."

Hilary's book can be purchased from Imperial College Press: www.icpress.co.uk/general/p605.html

obituaries



PROFESSOR DAN BRADLEY

Professor Dan Bradley, who died in Dublin on 7 February, was Head of the Department of Physics at Imperial from 1976–80. Roy Taylor (Physics), who worked with Professor Bradley, pays tribute:

“Dan, born in Derry in 1928, obtained a PhD from Royal Holloway in 1961 and commenced a meteoric research career. From 1961–64 he was a lecturer in physics at Imperial. He was promoted to Reader at Royal Holloway in 1964 and by 1966 he had accepted a Chair and been appointed Head of Department at Queen’s University Belfast. There, he established one of the largest research groups in Europe in the field of lasers and applications.

In 1973 Dan returned to Imperial, setting up a world leading group researching ultrashort-pulse laser physics and pioneering a technique to measure pulses of less than one picosecond.

He was appointed a Fellow of the Royal Society in 1976. By 1980, Dan foresaw the potential that laser techniques offered to the biosciences and was also researching semiconductor sources in telecommunications. He accepted the post of the inaugural Chair of Optical Electronics at Trinity College in Dublin. Sadly Dan’s achievements were cut short by a serious stroke that led to his early retirement in 1984.

Dan was an inspirational teacher and an international leader in the field of lasers and non-linear optics.

Dan is survived by his wife Winefride, a daughter and four sons, one of whom, Donal, followed his father’s footsteps as Head of the Department of Physics at Imperial from 2005–09 and is now Deputy Principal of the Faculty of Natural Sciences.”

long
service

Reporter shares the stories of staff who have given many years of service to the College. Staff featured celebrate anniversaries in the period 23 March–14 May. Data is supplied by HR and is correct at the time of going to press.

—AMNA SIDDIQ, COMMUNICATIONS

20 years

- Professor David Firmin, Professor of Biomedical Imaging (NHLI)
- Ms Ann Kealy, PC Support Analyst (ICT)
- Professor Andrew Livingston, Head of Department (Chemical Engineering and Chemical Technology)
- Miss Karen Lyle, Centre Manager (Environmental Policy)
- Mr Eyo Oku, Divisional Finance Administrator (Surgery and Cancer)
- Mr Jeremy O’Sullivan, Supervisor of Forward Delivery (Medicine)
- Mrs Jacqueline Simmonds, Purchasing Officer (NHLI)
- Professor Peter Taylor, Professor in Experimental Rheumatology (Kennedy Institute)
- Ms Melanie Thody, Director of Access and Head of Outreach (Registry)
- Mr Nick Young, User Support Analyst (ICT)

30 years

- Mr Hugh MacGillivray, Senior Research Officer (Mechanical Engineering)

40 years

- Mr Francis Wright, Technician (Biology)

SPOTLIGHT

Dr Dave Hartley, Lecturer (Cell and Molecular Biology) 20 years



Dave began his career at Imperial in April 1990 as a lecturer in the Department of Life Sciences. From 1999–2004, Dave was Director of Undergraduate Studies for Biochemistry and in 2007, he was appointed Senior Tutor for Life Sciences, with responsibility for the pastoral care of students. Dave currently teaches a number of courses within the Biochemistry degree programme, including Molecular Biology and Molecular Cell Biology for first year students and Molecular Basis of Development for third year students. “What I enjoy most about the job is working with young students and being able to captivate them with my teaching,” explains Dave. “Knowledge spreads like a virus amongst students and it is a most rewarding experience seeing it happen,” he adds. Outside the College, Dave is a keen Queen’s Park Rangers fan.

Mock interview



Dr Jenna Murdoch (NHLI) describes her experience of having a mock interview, conducted by the Postdoc Development Centre, to help her prepare for an interview for a fellowship in industry.

“After completing my PhD in immunology, I realised that I had no idea what to expect from an interview at postdoctorate level. I wanted to maximise my chances in a tough job market and sought help from the Postdoc Development Centre. I’d applied for a fellowship in industry and the interview was going to be on the telephone – a format I’d had no experience of. In the practice run, organised by the Postdoc Development Centre,

the mock interview was by telephone with a panel of two interviewers. We covered a broad range of questions looking at how I have used skills such as persuasion, judgement and different methods of communication to get my point across, as well as where I see myself in five or 10 years’ time. This made me really examine my skills and achievements, and work out how to provide the best evidence of these. Afterwards I received feedback, which helped me think about key messages that I wanted to get across. I would recommend a mock interview to anyone thinking about their next position. I’ve been called for a second interview for the fellowship I applied for, so fingers crossed!”

Visit the *Postdoctoral Development Centre website* for information on all the support and development opportunities available for postdocs: www.imperial.ac.uk/staffdevelopment/postdocs



Long servers’ party

Linda Casey, Editorial Coordinator (Medicine), attended the celebration on 2 March for staff who marked 25 or 30 years of service to the College in 2009 (some of whom are pictured above). She describes her experience: “Having been based at the Hammersmith Campus for 25 years, a visit to 170 Queen’s Gate was a rare opportunity to enjoy the company of so many distinguished members of Imperial College London in remarkable surroundings”.

Welcome new starters

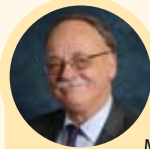
Miss Khadijeh Abboud, Reactor Centre
 Ms Miriam Abdul Razak, EYEC
 Dr Hassan Abdulrazzak, Surgery and Cancer
 Dr Ekundayo Adeosun, Medicine
 Mr Rajesh Aggarwal, Surgery and Cancer
 Dr Mohamad Al-Jeboori, Chemical Engineering and Chemical Technology
 Dr Armando Arias Esteban, Medicine
 Mr Dagfinn Aune, Public Health
 Dr Holger Auner, Clinical Sciences
 Dr Vitali Averbukh, Physics
 Mr Vasileios Avgerinos, Civil and Environmental Engineering
 Miss Elizabeth Batty, Human Resources
 Mr Adam Baxter, Human Resources
 Dr Travis Bayer, Molecular Biosciences
 Dr Camilla Benfield, Medicine
 Dr Vineet Bhakhri, Materials
 Miss Isobel Blake, Public Health
 Miss Leigh Brody, Medicine
 Mr Daniel Brookes, Medicine
 Miss Rosalba Carandente, Mechanical Engineering
 Mr David Chapman, Physics
 Mr John Charnley, Computing
 Miss Minmin Chen, Human Resources
 Dr Navpreet Chhina, Clinical Sciences
 Dr Alexander Chroneos, Materials
 Mr Antonio Conti, Security Services
 Miss Rosemary Dalton, Human Resources
 Mr Adam Dobson, Human Resources
 Mr Alessio Dore, Biomedical Engineering
 Mr Nathan Eng, Mechanical Engineering
 Dr Jingyun Fan, Mechanical Engineering
 Dr Diego Fontaneto, Biology
 Miss Dominique Ganase, Registry
 Dr Panagiotis Georgiou, Surgery and Cancer
 Dr Dana Gheorghe, Biology
 Dr Jason Go, ESE
 Dr Ullrich Hannemann, Physics
 Mrs Naomi Hayward, Clinical Sciences
 Miss Lisa-Marie Holbrook, NHLI
 Mr Stanley Huang, Cell and Molecular Biology

Dr Simon Kamel, Mechanical Engineering
 Dr Laura Kenny, Surgery and Cancer
 Miss Natasha Khalife, Surgery and Cancer
 Mrs Yvonne Konieczna, Surgery and Cancer
 Dr Kamal Kuriyan, Chemical Engineering and Chemical Technology
 Mr Sainath Lakshminarayanan, ESE
 Dr Hongqian Liang, Medicine
 Mrs Maria Lounes, Registry
 Dr Julia Lyubina, Physics
 Mrs Sarah Martin, Biology
 Ms Michelle Metcalf, Surgery and Cancer
 Mrs Dee Moore, College Headquarters
 Miss Carly Morris, Human Resources
 Miss Yasmin Mowat, Surgery and Cancer
 Dr Sofia Muses, Medicine
 Mr Patrick Orson, Human Resources
 Miss Frances Pereira, Chemical Engineering and Chemical Technology
 Dr Andy Photiou, Surgery and Cancer
 Mr Suman Prem, Catering
 Miss Rohini Rana, Molecular Biosciences
 Dr Bhargavi Rao, Public Health
 Mr Nicholas Roach, Bioengineering
 Miss Jennifer Skinner, Registry
 Miss Hailey Smith, Human Resources
 Miss Kellie Smith, Medicine
 Mr Dimitrios Spyridonidis, Business School
 Dr Tara Stanne, Cell and Molecular Biology
 Dr Kazunori Tomita, Medicine
 Dr Sunthar Umasunthar, Medicine
 Mr Vijay Vaja, Medicine
 Mr Konstantinos Velis, Civil and Environmental Engineering
 Ms Vana Wardley, Clinical Sciences
 Dr Elizabeth Whittaker, Medicine
 Mr Alex Will, Catering
 Dr Jess Zhao, Clinical Sciences

Farewell moving on

Dr Constantinos Anastassiou, Bioengineering
 Dr Manolis Antonoyiannakis, Cell and Molecular Biology
 Dr Glyn Ball, Cell and Molecular Biology
 Dr Eleni Bitziou, Bioengineering

Dr James Boardman, Clinical Sciences
 Dr Gerald Bove, Public Health
 Dr Carla Burrows, Surgery and Cancer
 Dr Gabriella Buscemi, Chemistry
 Ms Meenaxi Chavda, Surgery and Cancer
 Dr Bradley Clarke, Civil and Environmental Engineering
 Dr Denis Cumming, ESE
 Mr Felix Daniel, Human Resources
 Miss Sarah Davis, NHLI



Dr Lars Jarup, Emeritus Reader in Environmental Medicine and Public Health (Public Health), has retired from Imperial. He joined the College in 1998 as Assistant Director for the Small Area Health Statistics Unit. He says: "One highlight was my work on the health effects of noise, in particular the EU-funded Hypertension and Exposure to Noise Near Airports project." He will continue to work on the health effects of noise around Heathrow airport.

Dr Lucinda Denness, Biology
 Miss Heather Dorricott, Surgery and Cancer
 Mrs Lisa Elliott, ICT (8 years)
 Mr Christoph Engl, NHLI
 Dr Ana Fonseca, Surgery and Cancer
 Dr Howard Foster, Computing
 Dr Paul Foster, Medicine (5 years)
 Mr Samuel Franzen, Medicine
 Dr Christopher Gale, Medicine
 Mrs Nina Grabov, Biology (13 years)
 Mrs Jane John, EYEC
 Dr Ella Johnson, NHLI
 Dr Elena Kulinskaya, Public Health (6 years)
 Dr Ischa Kummeling, NHLI
 Mrs Ellen Ley, EYEC
 Mr Davide Lucchesi, Medicine
 Miss Kathryn Lockett, Engineering
 Ms Patricia Luna, Faculty of Engineering
 Miss Alexandra McAleenan, Clinical Sciences
 Professor Bernard Morley, Medicine (19 years)
 Dr Leonardo Mostarda, Computing
 Dr Manuela Mura, Medicine
 Mr Jovan Nedic, Aeronautics
 Dr Simon Newman, Medicine (10 years)
 Dr Sileida Oliveros Delgado, Medicine

Mr Konstantinos Papapaschalis, Molecular Biosciences
 Dr Thomas Parker, Computing
 Dr Stephane Paulus, Medicine
 Dr Marco Pautasso, Biology
 Dr Bethan Psaila, Medicine
 Ms Michelle Quaye, Medicine
 Dr Charlotte Ramsay, Engineering
 Mr Gavin Reed, Human Resources
 Dr John Reynolds, Medicine (21 years)
 Dr Giselle Rowlinson, NHLI
 Miss Amandeep Sahota, Human Resources
 Ms Chiara Scocianti, Public Health
 Mr Joseph Serrano, Human Resources
 Mr Hubert Sienkiewicz, Sport and Leisure
 Dr Carole Smadja, Biology
 Dr Saranya Sridhar, NHLI
 Dr Gavin Thomas, Biology
 Dr Thomas Wyss, Surgery and Cancer
 Dr Wei Yao, Surgery and Cancer

retirements

Mr John Laker, Mechanical Engineering (37 years)
 Mr Philip Proctor, Mechanical Engineering (19 years)

This data is supplied by HR and covers the period 21 February–13 March. It was correct at the time of going to press. Years of service are given where an individual has been a member of College staff for over five years. Asterisk (*) indicates where an individual will continue to play an active role in College life.

✉ Please send your images and/or comments about new starters, leavers and retirees to the Editor at reporter@imperial.ac.uk

The Editor reserves the right to edit or amend these as necessary.

Speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 29 April. *Reporter* is published every three weeks during term time in print and online at www.imperial.ac.uk/reporter

Contact Emily Ross: ✉ reporter@imperial.ac.uk
 ☎ +44 (0)20 7594 6715



31 MARCH ▶ INAUGURAL LECTURE

Understanding the origin of biodiversity to help preserve its future

The origin of species diversity has challenged biologists for more than two centuries despite the large amount of literature written on the subject.

Professor Vincent Savolainen (Biology), pictured left, will show how ideas about speciation can be disentangled, with particular attention to plants from Mediterranean and tropical regions. He will also show how knowledge of evolutionary relationships, as well as DNA data, can guide global conservation efforts, from 'barcoding' life and prioritising protected areas, to trying to control biological invasions.

take note



Help prevent opportunist thefts

Following an increase in opportunist thefts on the South Kensington Campus this year, staff are asked to be extra vigilant and to note the following advice: be wary of people tailgating when you enter a building via access-controlled doors, report any suspicious persons or activity immediately to security on the emergency number 4444, always lock valuables away before leaving offices or labs, and lock doors where possible. Register valuable personal items to assist the police in recovering stolen property at: www.immobilise.com



20 APRIL ▶ THEMED DAY

Education Day

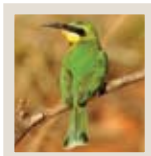
Education Day aims to provide a forum for sharing good practice across departments and faculties. The day will focus on the role of teaching in the College, in particular e-learning and engagement, and will conclude with the Rector's presentation

of College Awards for Excellence in Teaching, Pastoral Care and Research Supervision. Staff are invited to drop in to sessions on podcasting, plagiarism detection, peer assessment tools and how to involve industry in undergraduate teaching, amongst other topics. Speakers include Professor Diana Laurillard, Chair of Learning with Digital Technologies, Institute of Education, and Mr Anthony McClaran, Chief Executive of the QAA.

31 MARCH ▶ INAUGURAL LECTURE

Understanding the origin of biodiversity to help preserve its future

Professor Vincent Savolainen,
 Professor of Organismic Biology



9 APRIL ▶ LECTURE

The human vascular mapping project: translational updates and nanomedicine applications

Professor Renata Pasqualini, University of Texas M.D. Anderson Cancer Centre

13 APRIL ▶ LECTURE

The earth systems and the origin of animals

Professor John Grotzinger,
 Professor of Geology, California Institute of Technology



16 APRIL ▶ SEMINAR

Mechanisms and consequences of coherent neuronal activity

Professor John White, Brain Institute, University of Utah

20 APRIL ▶ THEMED DAY

Education Day

Workshops and talks focusing on e-learning and engagement

21 APRIL ▶ OPEN DAY

School of Medicine undergraduate open day

For prospective students

21 APRIL ▶ INAUGURAL LECTURE

Making molecules – from new method development to applications in cancer and asthma

Professor Alan Spivey, Professor of Synthetic Chemistry



28 APRIL ▶ FRIENDS OF IMPERIAL SPECIAL EVENT

Behind the scenes @ Grantham Institute for Climate Change

Grantham Institute, South Kensington Campus

29 APRIL ▶ CONFERENCE

Ultrafast vibrational dynamics of biomolecules

Clore Lecture Theatre, Huxley Building, South Kensington Campus

5 MAY ▶ GRADUATION

Postgraduate Awards Ceremonies

Royal Albert Hall

6 MAY ▶ LUNCHTIME CONCERT

Florilegium

Read Lecture Theatre, South Kensington Campus

18 MAY ▶ LUNCHTIME CONCERT

Lendvai string trio

Wolfson Education Centre, Hammersmith Campus

19 MAY ▶ CONFERENCE

Complexity and networks – neuroscience

Read Lecture Theatre, South Kensington Campus

19 MAY ▶ SPECIAL LECTURE

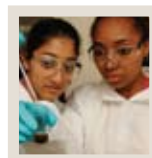
Energy, climate, action: what next in a world of denial

Professor Chris Rapley, Director, Science Museum

1–11 JUNE ▶ EXHIBITION

Outreach exhibition

Blyth Gallery, South Kensington Campus



VOLUNTEERING

Scout volunteers

Project ID: 1871
 Organisation: The Scout Association
 Dates: Ongoing
 Times: A couple of hours per week
 Location: Flexible

Volunteers are needed to support a wide variety of scouting activities. There are over 100,000 adults who volunteer for the scouts in the UK. Volunteers come from all walks of life but the one thing they share is the enjoyment of helping young people reach their potential. Volunteers are given training on the job and learn new skills as they go along. All you need is to give a couple of hours a week. The Scout Association will find you a scout group that is local and convenient for you, and will help you complete a CRB form.



For more information

To take part in a scheme or to hear more about volunteering in general, contact Petronela Sasurova:

☎ 020 7594 8141
 ✉ volunteering@imperial.ac.uk

For full details of over 250 volunteering opportunities please visit:

www.imperial.ac.uk/volunteering

✉ Subscribe to the weekly newsletter by emailing volunteering@imperial.ac.uk

Stay in the loop

✉ Visit www.imperial.ac.uk/events for more details about these events and others. To sign up for regular updates about Imperial events please email: events@imperial.ac.uk

