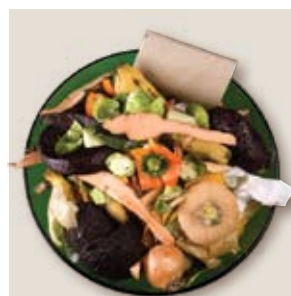


business sense

**Professor David Begg
makes the case for
integrating world class
science and business**

◆◆◆ CENTRE PAGES



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COMPOST**
Reducing
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EDITOR'S CORNER

Elephant spotting

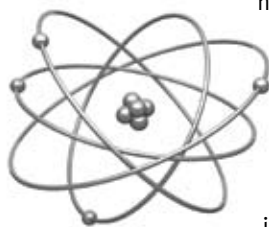
It's not often you can say you spied an elephant on your way to work, but for the next six weeks anyone out and about in our **capital city** is likely to spot one or two, cheering up our open spaces. My first sighting was on my way to South Kensington tube when I spotted Phoolan, a **colourful life-size baby elephant** fibre-glass model, next to the exit of the Natural History Museum on Exhibition Road. She is one of over 250 elephants located all around London which make up **Elephant Parade**, the brainchild of the charity Elephant Family, which aims to save the Asian elephant from extinction in the wild. All the elephants in the parade have been decorated by artists or celebrities and in July they will be sold in a live auction, with the money raised helping to give elephants a **secure habitat** for the future. Download a map to find the elephants nearest to your campus, from Blue Patch on Fulham Road to Bouquet in Paddington: www.elephantparade.london.org.

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 10 June. Contact Emily Ross: reporter@imperial.ac.uk
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Imperial and Rolls-Royce open new centre

Earlier this month Imperial and Rolls-Royce, the global power systems company, launched the Rolls-Royce Nuclear University Technology Centre (UTC), based in the Department of Mechanical Engineering, which is dedicated to research and training in nuclear technology. The UTC will develop the next generation of nuclear scientists and engineers who will help to secure the UK's long-term energy needs.



The Centre will provide a focal point for academics from the Faculty of Engineering and Rolls-Royce to undertake further research into both nuclear civil power and submarines. The aims of their research will include improving fuel performance, so that reactors can run more efficiently, and developing better methods for monitoring the performance of nuclear reactors, which are constantly subjected to harsh conditions such as radiation and extreme temperatures. Professor Stephen Richardson,

Principal of the Faculty of Engineering and Deputy Rector of the College, said: "The new Centre will establish more links with Rolls so that our students, who are the next generation of nuclear engineers, can get better access to valuable industry training and expertise, which is so vital in getting students ready for the needs of business when they graduate. The UTC will also provide a new hub – a focal point – for academics and Rolls-Royce staff to collaborate on new research in nuclear engineering projects."

—COLIN SMITH, COMMUNICATIONS

To watch a video about the new centre visit: www.imperial.ac.uk/news/rollsroyce

From café to compost

A tonne of food waste, including all the hot food waste collected from the College's three main restaurants, will be saved from landfill every week by Imperial, thanks to a newly designed composting unit unveiled last week.



Food waste is fed into the CompPod's macerator machine

The composter, developed using research from the Department of Civil and Environmental Engineering, will turn the waste from the South Kensington Campus's food outlets into compost used to enhance campus green spaces. This move will contribute towards the College's target of recycling 40 per cent of all College waste during 2010.

The CompPod, which houses the composter, is a standalone structure the size of a Portakabin and requires only electricity, water and drainage connections to operate. Its design is a world first and means it can be transported to other College locations if required.

Researchers from Imperial's Waste Management Group, led by Professor Sue Grimes (Civil and Environmental Engineering), were involved in finding the optimum composting environment, which is achieved in

new compost by experimenting with different variables, including temperature and the carbon and nitrogen balance. Professor Grimes said:

"The collection and disposal of food waste presents a major problem in attempts to divert organic waste from landfill. Our research brings together fundamental chemical, biological and engineering principles to tackle this problem, and it's been very satisfying to see our concept translate directly into a practical green solution here on our own campus."

—JOHN-PAUL JONES, COMMUNICATIONS

To watch a video about Imperial's composter, visit: www.youtube.com/watch?v=yz63LydfMIY

Imperial College London



STAMP your feet!

It's not too late to share your ideas for cutting energy waste so we can reduce the College's carbon footprint by **20% by 2014**.

Respond by 31 May for your chance to win £150 Amazon vouchers

Visit: bit.ly/stampyourfeet2
Email: sustainability@imperial.ac.uk
Mobile: Snap this QR code with your phone



Need the QR code scanner? Simply Google 'QR reader' with your device name and download a free reader.

Imperial graduates will shape the future

Despite graduating into a tough job market, Imperial's newest post-graduate degree holders should be optimistic about the opportunities ahead of them, said the Rector, Sir Keith O'Nions, at the graduation ceremonies held on 5 May in the Royal Albert Hall.



The largest Postgraduate Awards ceremonies in the College's history saw around 2,000 science, engineering, medicine and business graduates receive their degrees, watched by 4,700 guests. Describing the graduates as "our greatest contribution to societies around the world", Sir Keith told them:

"You have the knowledge and understanding that is key to meeting the challenges and opportunities of tomorrow – you will without doubt be part of moulding the world's future... We can only guess at the advances that the next generation will make – but I am confident you will be part of it."

At the ceremonies, honorary degrees were awarded to the former Science Minister Lord Sainsbury, biomedical engineering pioneer Professor Robert Nerem and leading immunologist Professor Sir Andrew McMichael. Also on the

"We can only guess at the advances that the next generation will make"

day, entrepreneur Ram Gidoomal, Lim Chuan Poh, Chairman of Singapore's Agency for Science, Technology and Research, and Lady Wolfson, Trustee of the Wolfson Foundation, were admitted to the Fellowship of Imperial College London.

In addition, the ceremonies celebrated staff and students who have made outstanding contributions to the College's life and work. Postgraduate student Jad Marrouche (Physics) received a Student Award for Outstanding Achievement in recognition of his outreach work and Professor Jane Mitchell (NHLI) received the Rector's Award for Excellence in Research Supervision. Two academic groups focusing on nanoscale science and technology and molecular systems engineering received Research Excellence Awards worth £150,000 each, awarded to support research of high academic achievement and significant future potential.

—JOHN-PAUL JONES, COMMUNICATIONS

ERC Advanced Grants win



Developing a theory to predict the effect of environmental change on ecosystems and using a new kind of physics to give microchips more memory are two of the aims of four new European Research Council (ERC) Advanced Grants awarded to Imperial researchers this month.



Pictured left, from top to bottom, Professor Tim Coulson (Life Sciences), Professor Simon Donaldson (Mathematics), Professor Russell Cowburn (Physics), and Dr Serafim Kalliadasis (Chemical Engineering and Chemical Technology) received ERC Advanced Grants, worth over €7.5 million (£6.5 million) altogether, that will fund important and high quality research across the College. They will tackle some of today's big issues, such as data storage and the effects of climate change.



One of the winners of an ERC Advanced Grant worth more than €2 million is Professor Tim Coulson (Life Sciences), who is working on a theory that will lead to better prediction of the consequences of environmental change on natural populations. Biologists frequently observe simultaneous changes in species – for example, for marmots environmental change has led to an increase in both population size and in the average size of the animal – but predictions are difficult to make. Using his grant, Professor Coulson hopes to develop a theory that will help, by examining data from laboratory and field studies.



ERC Advanced Grants aim to support excellent, innovative investigator-initiated research projects by leading advanced investigators, whatever their nationality.

"I'm interested in this area because it is challenging, because it is big picture science and because it is a little contentious. I think it is necessary to challenge existing paradigms when they clearly are inadequate to answer a specific question," said Professor Coulson. "By the end of this grant, I hope to have a better understanding of the natural world."

—LUCY GOODCHILD AND COLIN SMITH, COMMUNICATIONS

in brief

Agreement boosts neuroscience research



Imperial and McGill University, Montreal, Canada, signed a memorandum of understanding this month agreeing to work more closely

to advance neurological research and clinical care. Explaining that Imperial and McGill share common interests in research fields including brain imaging, motor neuron diseases, movement disorders and neuroimmunology, Principal and Vice Chancellor of McGill Heather Munroe-Bloom (pictured with the Rector) said: "The long-standing collaboration between these two institutions has been broadened, offering us the opportunity to expand our research programmes and achieve major advances in our understanding of human neurological disorders."

On course for NASA

A design for a human colony in space has won 12 school pupils a trip to NASA's Johnson Space Centre, after a national competition at Imperial in April. Imperial hosted 160 pupils, aged 14 to 18, from 12 schools, who competed to represent the UK in the International Space Settlement Design Competition by setting up mock companies to consider construction costs and interiors for hypothetical inhabitants of a space settlement.

www.imperial.ac.uk/news/nasatrip

Academic Registrar

Nigel Wheatley, Acting Academic Registrar since May 2009, has accepted appointment as Academic Registrar. Mr Wheatley joined the College in November 1980 as Senior Assistant Registrar and since then has worked across a variety of areas of the Registry. As Academic Registrar, Mr Wheatley has responsibility for the College's academic governance and for ensuring the quality of its educational provision.

"It is economically going to get tougher but Imperial will survive, as always, on the basis of our quality, and it is up to all of us to enhance that quality in our teaching and our research."

PROFESSOR STEPHEN SMITH, PRINCIPAL OF THE FACULTY OF MEDICINE AND CHIEF EXECUTIVE OF IMPERIAL COLLEGE HEALTHCARE NHS TRUST, SPEAKING ON HIS VIDEO BLOG ON 11 MAY BEFORE THE NEW PRIME MINISTER'S APPOINTMENT. TO WATCH THE VIDEO VISIT: WWW2.IMPERIAL.AC.UK/BLOG/FOMPRINCIPAL

Imperial College Healthcare NHS Trust

No optical illusion

For the first time, opticians can arrange for patients at risk of blindness to receive specialist hospital treatment using a secure internet referral system on their computer or mobile phone.

The Western Eye Hospital is the first centre offering this service to opticians who want to refer patients with wet age-related macular degeneration (AMD) – a disease responsible for more than half of all blindness in the over 50s.

Until now, opticians have struggled to refer patients directly to hospital specialists – patients needed to seek referrals themselves through accident and emergency departments or their GP. Using the new website, opticians can make direct referrals for wet AMD patients. Opticians on a home visit can access the site using a web-enabled phone.

Project lead Dr Richard Cheong-Leen said: “This system will greatly speed up access to specialist care for patients who have a highly treatable but serious disease. It will help minimise the risk of patients going blind while waiting for an appointment.”

The Royal College of Ophthalmologists recommends that treatment for wet AMD begins within two weeks of symptoms manifesting to reduce the risk of blindness. The Western Eye Hospital offers a one-stop AMD clinic within one week of referral, where patients undergo diagnostic tests and receive treatment immediately.

Imraan Amerat was the first optician to use the online referral system. He said: “Patients now get the treatment they need without unnecessary delay.”

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

For more information email macula@imperial.nhs.uk

Professor Maier wins prestigious physics prize

Earlier this month, Professor Stefan Maier, Co-Director of the Centre for Plasmonics and Metamaterials (Physics), was presented with a prestigious prize for his research at a ceremony in Tel Aviv, Israel.

Professor Maier investigates how nanoscale metal structures react with light to produce tight light beams. The aim of this work is to guide light using tiny, sub-micrometre-sized light fields, called plasmons, on the surface of the metal. This technology could help scientists to develop new kinds of microchips that work without electricity, and cheaper, more efficient solar cells.

Professor Maier was awarded the Raymond and Beverly Sackler Prize in the Physical Sciences by Tel Aviv University.

“This is a very prestigious prize, which reflects Professor Maier’s pioneering work in the field”



He shares the prize, and the \$50,000 award, with Professor Mark L. Brongersma of Stanford University.

The prize is awarded every two years to researchers under the age of 45, who have made an outstanding contribution to their field.

Professor Chris Hankin, Director of the Institute for Security Science and Technology, said: “This is a very prestig-

ious prize, which reflects Professor Maier’s pioneering work in the field. The challenge of developing ever smaller and more efficient microchips to cope with our data needs, especially in security science, is one that may be met using this kind of technology. I am looking forward to seeing further developments in plasmonics and photonics at Imperial.”

—LUCY GOODCHILD, COMMUNICATIONS

To hear Professor Maier talk about his research, visit: www.imperial.ac.uk/news/sacklerprize

New laser lab

A new laser laboratory that will help scientists in the Department of Life Sciences to see how proteins become activated at a molecular level was launched at Imperial on 29 April.

The Ultrafast Spectroscopy Laboratory houses three state-of-the-art laser systems that can analyse the movements of proteins at a molecular level. The lasers work by generating intense light pulses that last for only femtoseconds (0.0000000000001 of a second) and the new lab will make the College one of the world’s biggest hubs for this kind of technology.

The lasers will be used to study light-activated processes such as photosynthesis, which will involve researchers measuring the vibrations of atoms and

“The basement location of the lab makes it ideal”

molecules to understand how proteins involved in photosynthesis split water to release oxygen.

Another project will look at a protein called phytochrome, which senses light in plants and some bacteria, to find out how it changes shape once it has absorbed light.

The laboratory, which has been set up with almost £3 million of funding from British and European research councils, the Royal Society and Imperial, is in the basement of the Wolfson Building. According to Dr Jasper van Thor (Life Sciences), who has set up the lab, it was vital to find the right location for the research: “The lasers

each sit on an optical table and a temperature change of just one degree Celsius can slightly buckle these tables, changing the direction of the lasers on top. The basement location of the lab makes it ideal and protected from potentially disastrous traffic and tube vibrations,” he says.

—LUCY GOODCHILD, COMMUNICATIONS



(L–R) Professor Paul Freemont and Dr Jasper van Thor, both from Molecular Biosciences, who were involved in setting up the lab. To hear more about the new laboratory visit: www2.imperial.ac.uk/media/videos/view/707

media mentions

—LUCY GOODCHILD, COMMUNICATIONS



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www.imperial.ac.uk/media/jointsignup

NEW SCIENTIST ▶ 27.4.2010

Laughing out life

Trace amounts of laughing gas in Mars's atmosphere could help scientists find signs of life on the planet, according to a study from the University of Georgia in Athens, USA, reported by *New Scientist*. Researchers found that the water of the hypersaline Don Juan Pond in Antarctica reacts with minerals in volcanic rock to produce nitrous oxide. Identifying



sources of brine on Mars by looking for nitrous oxide could indicate microbial life. However, in the Don Juan Pond “what would normally be thought of as a biosignature is being produced from just brine and volcanic rock,” said Professor Mark Sephton (Earth Science and Engineering). “It indicates that Mars and Mars-like environments on Earth have much to teach us about discriminating between the products of geology and biology,” he added.

THE DAILY TELEGRAPH ▶ 3.5.2010

Dispensing with dissection

Schools are abandoning the practice of dissecting frogs and animal organs in biology lessons out of concern for squeamish pupils and fears that students could attack each other with scalpels, reports *The Daily Telegraph*. Many schools use plastic replicas or computer simulations in place of practical dissection, but experts have warned that this could fail to equip the future generation of biologists with essential practical skills. Professor Robert Winston (Humanities) told the newspaper: “Online doesn't begin to compare. It is a bit of a cop-out – it is very convenient and you can do it *en masse* but practical work is what engages children.”

TIMES HIGHER EDUCATION ▶ 6.5.2010

Statistics in social science: use or abuse?

Most subjects in the sciences and social sciences involve statistics, but are academics making good use of them or abusing statistics asks the *Times Higher Education*.



The International Benchmarking Review of UK Sociology, published last month, states that UK sociologists make “relatively little use of statistical methods”. The review suggests that sociology can be “sceptical ... or even hostile” to quantitative methods. Professor David Hand (Mathematics) agreed that the use of statistics in some disciplines was a matter of concern. “It is a good idea (for a researcher) to get a statistician, and it is a good idea to get one before you collect your data,” he said.

THE TIMES OF INDIA ▶ 9.5.2010

Celeb ‘cod science’ debunked

Celebrities are trendsetters when it comes to health and fitness fads, but what they say is not always right, according to *The Times of India*. The paper reports that scientists are now standing up to defend evidence-based health advice, debunking celebs' ‘cod science’ advice, from avoiding meat to taking vinegar shots. Actress Gwyneth Paltrow steers clear of pesticides: “When I'd read about what pesticides do to small animals, I thought, ‘Why would I expose my child to that?’” But Professor Alan Boobis (Medicine) reports: “Animals are exposed to doses substantially greater than those to which consumers will ever be exposed. If studies produce doubt about the safety of a pesticide, it is not approved for use.”



awards and honours

ENGINEERING

Hungarian Academy of Sciences recognises Gelenbe



Professor Erol Gelenbe (Electrical and Electronic Engineering) has been elected as one of three

new honorary members of the Hungarian Academy of Sciences in its engineering section. The honour recognises Professor Gelenbe's outstanding results on virtual memory algorithms, network protocol analysis, traffic models,

diffusion models of queuing systems, performance evaluation of computer systems and the results of a high international level in the areas of learning algorithms, image and video processing, pattern recognition and adaptive systems.

MEDICINE

Kaleebu's new appointment in Uganda

Dr Pontiano Kaleebu, Visiting Reader in the Department of Medicine, has been appointed Head of the Medical Research Council Unit on AIDS in Uganda at the Uganda Virus Research Institute, the International AIDS Vaccine Initiative's main research partner in Uganda. Professor Kaleebu has collaborated with Professor Frances Gotch and Professor

Jonathan Weber (both Medicine) for several years.

ENGINEERING

International Student Awards 2010



Mechanical Engineering undergraduate Richard Chan has been announced as the London Regional

Winner in the International Student Awards 2010, a prestigious competition organised by the British Council. More than 1,300 students from 118 countries entered the competition, which seeks to celebrate the achievements of international students. Richard won by writing a ‘personal letter home’ about student life in the UK.

ENGINEERING

Imperial recognised for transport research

A study co-authored by Professor John Polak (Civil and Environmental Engineering) and research student Scott Le Vine of the Centre for Transport Studies, together with colleagues from UCL and Oxford University, was honoured with



the Worshipful Company of Carmen's 2009 Herbert Crow Memorial Award. The study looked at how Britons'

driving habits have evolved in the past two decades. The award was presented by the Lord Mayor of the City of London at the Company's annual dinner in March 2010.

Bowel cancer: new test



A five-minute screening test could cut the risk of developing bowel cancer by a third and save thousands of lives, according to new research led by Professor Wendy Atkin (Surgery and Cancer) published in the *Lancet* on 28 April.

Bowel cancer is the third most common cancer and the UK's second biggest cancer killer, causing over 16,000 deaths each year.

The new 16-year study, funded by the Medical Research Council, the National Institute for Health Research, and Cancer Research UK, showed that a single flexible sigmoidoscopy examination in men and women aged 55–64 reduced the incidence of bowel cancer by a third, compared with a control group who had usual care.

Screening with flexible sigmoidoscopy (named the 'Flexi-Scope test' by the research team) was particularly effective in the lower bowel, where it halved incidence of the disease.

Over the course of the study, bowel cancer mor-

tality was reduced by 43 per cent in the group that had the Flexi-Scope test compared with the control group. The randomised trial followed 170,432 people over an average period

of 11 years, of whom 40,674 underwent a single Flexi-Scope exam.

Professor Atkin said: "Our study shows for the first time that we could dramatically reduce the

incidence of bowel cancer, and the number of people dying from the disease, by using this one-off test. Our results suggest that screening with Flexi-Scope could save thousands of lives."

—LAURA GALLAGHER, COMMUNICATIONS

“We could dramatically reduce the incidence of bowel cancer, and the number of people dying from the disease”

Switch that enables *Salmonella* to sabotage host cells

A new switch that enables *Salmonella* to sabotage host cells was revealed in a *Science* study on 15 April. The authors, led by Professor David Holden (Medicine), say that the switch could lead to drugs to combat *Salmonella* and other bacterial infections.

In humans, *Salmonella* causes diseases ranging from gastroenteritis to typhoid fever. It also causes similar diseases in livestock.

Before *Salmonella* can establish infection by replicating inside a human or animal cell, it must first sabotage that cell by injecting it with 'virulence proteins', to interfere with the cell's defences and help the bacteria grow.

The new research reveals that a switch needs to be triggered before a *Salmonella* bacterium can inject its virulence proteins. To do this, the *Salmonella* cell assembles a needle-like structure on its surface; then another set of bacterial proteins passes through this and pokes a hole in the host cell membrane.

Once the hole is created, the *Salmonella* bacterium recognises the pH of the host cell, and switches



Salmonella causes disease ranging from gastroenteritis to typhoid fever.

off its 'safety catch' so that the virulence proteins can be injected into the host cell.

Professor Holden explained: "A *Salmonella* cell delivers its virulence proteins to a host cell, a bit like the way in which a parked aeroplane delivers its passengers to a terminal building. After the plane taxis to its stand at the terminal, a loading bridge is used to connect the plane to the building. Similarly, the bacterial cell waits until it has assembled a special bridge before it delivers its passengers – the virulence proteins – to the host cell.

—LAURA GALLAGHER, COMMUNICATIONS



New understanding of dengue fever

Some of the human immune system's defences against the virus that causes dengue fever actually help the virus to infect more cells, according to new research led by Professor Gavin Screaton (Medicine), published in the journal *Science* on 6 May.

The researchers hope their new findings could help with the design of a vaccine against the dengue virus. The study could also help explain why people who contract dengue fever more than once usually experience more severe and dangerous symptoms the second time around.

Dengue fever is transmitted by a mosquito bite and is prevalent in sub-tropical and tropical regions includ-

“We hope that our findings will bring scientists one step closer to creating an effective vaccine”

ing South East Asia and South America. Symptoms include high fever, severe aching in the

joints and vomiting, as well as hemorrhagic fever, which can be fatal.

The researchers have identified particular antibodies that are produced by the human immune system to fight off the virus. They have shown that if subsequent infections are from a different strain of the virus, then these antibodies do not provide protection – they actually help the virus establish itself by infecting more cells. The new research shows that these precursor membrane protein (prM) antibodies do not assist in neutralising the virus, but actually help the virus to infect more cells.

Professor Screaton said: "Our new research gives us some key information about what is and what is not likely to work when trying to combat the dengue virus. We hope that our findings will bring scientists one step closer to creating an effective vaccine."

—LAURA GALLAGHER, COMMUNICATIONS

Health impact of using mobile phones



Scientists from Imperial's School of Public Health launched a new decades-long study to investigate whether there is a link between the use of mobile phones and long-term health problems on 22 April.

The cohort study on mobile communications (COSMOS) will run for 20–30 years and will follow the health of 250,000 participants aged 18–69 in five European countries. The Imperial research team is leading the UK arm of the study and is inviting 2.4 million phone users to participate.

Principal Investigator of the study, Dr Mireille Toledano (Public Health)

said: “For the benefit of current users and for future generations, it is important for us to carry out long-term health monitoring of a large group of mobile phone users.”

Studies of short-term use of mobile phones and health have been reassuring. However, there are still some uncertainties, as some diseases take many years to develop and, so far, few people have been using mobile phones for that period of time.

Co-Principal Investigator Professor Paul Elliott (Public Health) said:

“By looking at large numbers of people across Europe over a long period of time, we should be able to build up a valuable picture”

large numbers of people across Europe over a long period of time, we should be able to build up a valuable picture of whether or not there is any link between mobile phone use and health problems over the long term.”

—LUCY GOODCHILD, COMMUNICATIONS

“COSMOS aims to fill in important gaps in our knowledge of mobile phones and health. By looking at

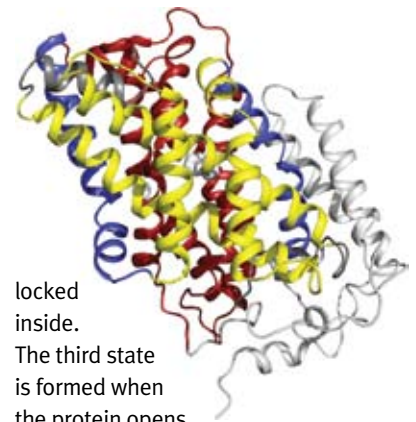
All structures of single transporter protein revealed

Researchers from Imperial and the Universities of Leeds and Oxford have captured the three-dimensional atomic models of a single transporter protein in each of its three main structural states. They published the third structure of the bacterial Mhp1 transporter protein in *Science* on 23 April – an achievement that has been a goal of researchers for over 25 years.

The discovery offers insight into how the body moves essential chemicals into its cells, and creates an opportunity to develop new drugs.

Biologists have surmised that transporter proteins such as Mhp1, which sit in the cell membrane, carry molecules through by shifting between at least three distinct structural states, controlled by ion gradients.

In the first state, there is an outward-facing cavity. A compound will enter this cavity and attach to a binding site, whereupon the protein will move to a second state with the cargo



locked inside. The third state is formed when the protein opens up a cavity on the inward-facing side to release the compound into the cell. The switch between outward and inward-facing sides works rather like a ‘kissing gate’ in which the cavity is either on one side or the other but there is never a direct channel through the whole protein.

“This third structure completes the picture and we can now understand Mhp1’s ‘alternating access’ mechanism in great detail,” said author Dr Alexander Cameron (Molecular Biosciences). “We also unexpectedly found that the structures are similar across many transporter proteins previously thought to be different,” he added.

—ADAPTED FROM A PRESS RELEASE ISSUED BY THE UNIVERSITY OF LEEDS

British common frogs could croak it

Frogs are so locally adapted that they may not be able to cope with even modest climate change, according to a study published in the *Proceedings of the National Academy of Sciences* on 20 April. The new research analysed more than 50,000 UK observations of first frog-spawn from 1998–2006, collated by Nature’s Calendar, a national survey coordinated by the Woodland Trust.

This mass observation of frogs spawning sounds a warning bell, not only for the future of the common frog, but also for Britain’s wildlife more generally. What’s true of frogs is likely to be true for many other poorly-dispersing species. Their only alternative will be to move and that is not an option, unless there is swift action to create landscapes that work for wildlife, as well as people.

The study used a unique approach to assess

local adaptation, which compared how relationships between temperature and spawning dates vary across Britain with how they vary over time.

All populations spawn earlier in warmer years but southern populations do so several days earlier than northern ones even if they experience the same temperatures, a difference that can be attributed to natural selection.

Joint lead author and Imperial Junior Research Fellow Dr Albert Phillimore (Biology) said: “It’s unlikely that frogs will be able to evolve sufficiently rapidly, so they will need to move northwards. All frog populations face a challenge

but the most southerly populations are in the greatest predicament as the English Channel provides a total barrier to immigration from further south.”

—LUCY GOODCHILD, COMMUNICATIONS

“It’s unlikely that frogs will be able to evolve sufficiently rapidly, so they will need to move northwards”



Sir David Attenborough voiced his concern about the threat to amphibian species in *The Independent*. “Amphibians are the lifeblood of many environments, playing key roles in the functions of ecosystems, and it is both extraordinary and terrifying that in just a few decades the world could lose half of all these species,” Sir David said.

Distinctly Imperial

Reporter speaks to Professor David Begg, Principal of Imperial College Business School, who believes an integrated Imperial is key to meeting future funding needs.

Before David Begg joined Imperial in 2003, the Business School was regarded as semi-detached from the College, a view reinforced by its previous location at 53 Prince's Gate.

Over the last seven years David Begg has transformed the Business School, aligning it closely with Imperial and its science-based brand, rather than competing with larger generic schools, such as London Business School or Harvard. "Since 2003 we have made huge strides to become research intensive and focus heavily on technology, commercialisation and entrepreneurship," David explains.

Research excellence

Under David's lead, the Business School has developed specialisms that support Imperial's broad research goals, including innovation and entrepreneurship, finance, healthcare and energy, and are all linked with research being conducted in the College. David says he is keen to expand

the number of multidisciplinary projects the Business School is involved with in the future.

Today, 15 of the Business School's principal investigators collaborate in projects across the College. The Finance Group's Dr Walter Distaso is leading research with the Grantham Institute on

“Since 2003 we have made huge strides to become research intensive”

carbon trading and carbon pricing, Professor Peter Smith has a joint appointment between the Business School and the Institute of Global Health to examine comparative performance of

national health systems, and the School's Innovation and Entrepreneurship Group, led by Professor David Gann, is leading research across the College on the digital economy, working closely with the Faculty of Engineering.

The high quality of research in the Business School was recognised by the 2008 Research Assessment Exercise results, in which it was ranked joint first for the percentage of research activity assessed as 'world leading' or 'internationally excellent' – beating both Oxford and Cambridge.

The Business School is located on the South Kensington Campus, just inside the Main Entrance. The building was designed by Foster and Partners and Buro Happold, and was opened by Queen Elizabeth II in 2004.



Integration

Developing more partnerships with leading corporations is one of David's continuing priorities for the Business School. Its researchers already work with IBM, Citi, Vodafone and Computer Science Corporation on digital cities; hedge fund specialist Brevan Howard on finance research; and industrial giant Finmeccanica on innovation management. It is also gaining a competitive reputation winning nearly £60 million in research bids since 2002. The Business School's total income doubled from £8 million in 2003–04 to £18.5 million in 2009–10.

Going on the offensive to tackle the recession, David wants to see the College aiming for more collaborative bids joining up its scientific expertise and the Business School's knowledge of industry. He says: "If we can integrate Imperial's world class science and its applications with business know-how, our teams will have a uniqueness and competitive edge."

The collaborative Innovation Club created by Microsoft and hosted by the Business School is an example of the exciting possibilities raised by collaborative partnerships. David has just returned from a meeting in Seattle in America, where he met the other members of the club including Merck, Nokia, Bank of America, Twentieth Century Fox Film Corporation, and Proctor and Gamble. The club aims to develop innovative business ideas and test how these ideas might profitably be turned into new products and services. David explains why Imperial was chosen as the only academic partner in the group: "We were the only university to join up its Business School, Faculty of Engineering and technology transfer company".

David believes Imperial's distinctiveness is a considerable advantage. "Corporate partnerships will form an increasingly critical component of our research, and Imperial's ability to integrate the entire pipeline from basic research to translation and commercialisation will stand us in ever better stead," he says.

Teaching

David's vision for the Business School included rethinking the range of courses it offers, with the help of the Deputy Principal, Professor Dorothy Griffiths. Together, they have created an MBA to focus on innovation and entrepreneurship – two values which underpin all Imperial's activities. Aimed at people with two or three years' work experience, the course

trains them to manage change and encourage innovation in their companies. And the high standard of teaching on the MBA attracted attention this January after the Business School was ranked third in the world for

innovation and entrepreneurship in the *Financial Times* global MBA rankings. The same survey ranked the Business School sixth for economics and seventh for marketing.

The Business School has also created a number of new courses specifically geared towards scientists and those with technical backgrounds, working closely with the other faculties. A combined Department of Earth Science and Engineering and Business School degree, the MSc in Metals and Energy Finance, and the Actuarial Finance MSc for

“If we can integrate Imperial's world class science and its applications with business know-how, our teams will have a competitive edge”

Department of Mathematics students have been launched in the last five years, supplementing the long-standing joint honours programme for science and medical undergraduates that increasingly attracts top students from other universities as well. "All our courses reflect the increasing demand from employers to have employees who not only have strong technical skills but are also business savvy and good managers. This will help our students to be competitive and have more chance of being promoted in the future," explains David.

To try and pass on some of these principles to students across the College, Business School staff also teach elements of undergraduate business and management as part of the Faculty of Engineering's EnVision programme, and in specialist offerings to undergraduates from the Faculty of Natural Sciences.

David says he would like to have the resources to teach more Imperial students in the future and he talks of designing a new e-learning programme, providing business skills for all undergraduates.

Despite worries about the economy, David also sees the recession as an opportunity to enhance Imperial. "If the College can steal a march on competitors while they are cutting back, our long-term position will be considerably enhanced," he says.

If your research group could benefit from business expertise please contact Professor Jonathan Haskel who will put you in touch with the appropriate researchers: j.haskel@imperial.ac.uk

Big bids

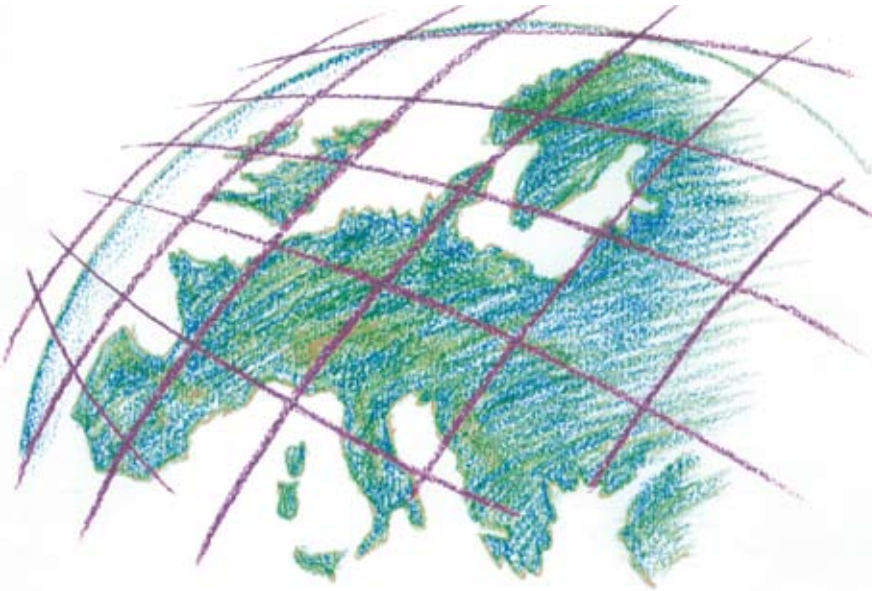
Professor David Gann (Business School) is collaborating with Imperial engineers, to create opportunities for research funding by teaming up with some high profile organisations.



“Last year I was asked to lead Imperial's work on the digital economy. This is a very exciting challenge creating many new opportunities for interdisciplinary work across the Faculties. It involves bringing together work on **digital technologies** in departments including Computing and Electrical and Electronic Engineering, which will lead to applications in areas such as **transport, security, process systems, healthcare and biomedical engineering**, and connecting these with new business models and innovation processes developed by the Business School. I am very pleased with the relationships we are

building with our industrial collaborators, such as **IBM** and **Vodafone**, which provide us with a platform for ambitious plans for new funding. We are modelling the integration of digital economy work on the well-founded collaborations developed by the **Energy Futures Lab** and **Grantham Institute for Climate Change**.

I don't think I could have done any of these things at another university. **Innovation** often starts at the boundaries between known areas of knowledge. I find that colleagues at Imperial like to collaborate and are interested in ideas outside their core discipline. This is an ideal environment for innovation to flourish. Our culture is 'can do'.”



Voice in Europe

Reporter finds out how the College's new partnership with the League of European Research Universities (LERU) will help strengthen Imperial's ability to influence policy on the European stage.

This January Imperial joined LERU – a consortium of European research-focused universities. Professor Mary Ritter, Pro Rector for International Affairs, says she hopes that membership will enhance the College's research collaborations with member universities and facilitate student mobility, in particular in PhD research training. "LERU is known for producing high quality papers and has an effective lobbying capacity on key research issues, including open access publishing, and reducing the financial, administrative and reporting burden for the next Framework Programme for research and technological development (FP8), the European Union's instrument for funding research in Europe," she adds.

This year LERU has produced papers on issues such as doctoral education and the problem of social security for mobile researchers, all aimed at influencing European debate. Further papers on biodiversity and

the future of European energy are in the pipeline. LERU has also started groups for best practice exchange amongst its members.

FP8 paper

Imperial has contributed to the LERU paper addressed to those who will shape FP8. This sets out LERU's vision for successful implementation of future Framework Programmes (FPs). The role of FP research funding is important as an additional source of funding for European universities like Imperial, particularly during the recession. Imperial currently participates in over 250 FP7 projects and its expert EU Research Office team has been closely involved in the drafting of LERU's submission.

LERU's key recommendations to the European Union on the FP8 are that:

- There are opportunities for both directed (top-down, impact-driven) and non-directed (bottom-up, science-driven) research funding in FP8.
- Excellence remains the first and most important criterion for funding research.
- Financial regulations are adjusted to research, to ensure financial sustainability of universities.
- Framework Programme implementation is further simplified and optimised.

“LERU is a force to be reckoned with in Europe”

Professor Peter Knight, Deputy Rector (Research) says: "As FP funding is key to the College's research strategy, it is vital for Imperial to be, not only actively involved in influencing decision-making for future FPs, but also collaborating with our European research partners to achieve this aim. I'm confident LERU is a force to be reckoned with in Europe."

To contribute to future LERU papers, email: ulrike.hillemann@imperial.ac.uk

Reporter speaks to Kurt Deketelaere, Secretary General of LERU, to find out about his vision for the organisation.



What is your vision for LERU?

LERU must realise its two main goals: firstly, to influence and improve research policy at European and national level, in favour of research intensive universities in general, and its 22 members in particular; and secondly, to develop best practices for, and cooperation among, its members.

How is LERU different to other lobbying organisations?

In its efforts to influence and improve research policy, LERU wants to rock the boat. In research matters, we speak with a voice of authority based on experience, and we lead by example.

What have you achieved since you started in your role last year?

We have increased our visibility and influence, by stepping up our activities and broadening their scope. Also academics and senior staff members of the LERU universities are now more involved in these activities. Channeling their expertise – academic as well as managerial – into our lobbying activities is absolutely crucial.

What are the key challenges for LERU?

One key challenge for our many researchers is to establish a decent EU Framework Programme 8 on research and development and innovation in 2011–12, to start in 2014. We need to consider the content, for example, focusing on the 'Grand Challenges' like energy, environment, climate change, food, mobility etc. as well as procedures and financing rules. We must have a serious reduction of red tape. LERU has just developed a paper on this and is now entering discussions with the Commission on FP8 and simplification.

What changes would you like to see?

I would like to see the member states and the EU do what they say regarding research and innovation. If Europe wants to stay in the lead at global level, massive investments in research and development are absolutely necessary, certainly if we see what the US and China are doing. Making politicians conscious of this requirement, and contributing to the realisation of it, is the absolute priority for LERU, since this is the number one priority for our research intensive universities.

www.leru.org

inside

story

mini profile

Martin Trusler

Professor Martin Trusler, Schlumberger-Royal Academy of Engineering Research Professor (Chemical Engineering and Chemical Technology), talks about measuring fluids under extreme conditions and how he enjoys assessing wacky inventions.

What's your research area?

I'm interested in understanding the thermophysical properties of complex fluid mixtures. These can be anything from mixtures of CO₂ and oil, to blends of refrigerant fluids. Our group's facilities are unique and allow us to measure the properties and phase behaviour of gases and liquids under extremes of temperature and pressure. We also work closely with colleagues on the computational modelling side.

How applicable is your research to industry?

Industry needs to understand the fluids they use and work with, particularly in the oil and gas industry. A number of my research projects are sponsored by oilfield companies such as Shell and Schlumberger. Often companies come to us and ask us to measure key physical properties of particular fluids under extreme conditions of temperature or pressure.



Can you describe your consultancy work?

I first started working as a consultant when I joined Imperial 21 years ago. I enjoy the unusual projects like assessing new inventions. There have been some wacky ones, like extracting oil from old tyres. I might be sceptical but I still approach them with an open mind and do my research thoroughly. Sometimes people have invested a lot of money in the idea and it turns out to be useless – it's important to be fair and thorough in the assessments.

How do you combine consultancy with your research?

Often the two link very well, with consultancy projects using the same techniques and facilities as research work. I can choose the jobs I want to take on, which means I only do the interesting and relevant projects. And of course the research benefits from the money, with consultancy paying for new equipment and helping to support students.

—KATIE WEEKS, IMPERIAL CONSULTANTS

SET for big things

On 8 March, Paula Salgado, a postdoctoral research associate in the Division of Molecular Biosciences and postdoc representative for the Division, joined 60 other early-career scientists from across the country, who were selected to compete in a national scientific poster competition, SET for Britain, at the House of Commons. Paula describes the poster exhibition which was the main event of the day:



Paula Salgado had the opportunity to speak to MPs and other fellow early-career scientists at the SET for Britain event at the House of Commons.

“The exhibition gave us the opportunity to present our work to our local MPs and scientific peers. My poster highlighted the exciting results my group has achieved, determining the structure of a protein from a pathogenic fungus, *Candida albicans*. This protein is responsible for the fungal cells ‘sticking’ to human cells, a key event for infection to occur. My poster gave a brief introduction to the fungus

and the diseases it causes, followed by a visual illustration of how a structure is determined. It also featured a visual summary of our results and potential applications in treatment development.

I spoke to a number of MPs about my research, including Mark Field, MP for the Cities of London and Westminster

“As structural biology is a less well-known subject, all the MPs were keen to know a bit more”

constituency. He was really interested in the potential applications of the results

in terms of drug development. As structural biology is a less well-known subject, all the MPs were keen to know a bit more about what we mean by ‘structure’ and how it is determined. I used the visual diagram of structure determina-

tion in my poster to explain.

This experience has made me even more determined to bring the field of structural biology to a wider audience using good science communication, as once people understand the field, they quickly become interested in its potential.”

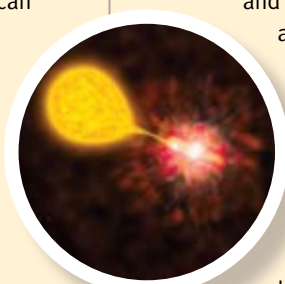
▶ SCIENCE FROM SCRATCH

As explained by Sarah Barker, MSc Science Communication



Red dwarf stars

Not to be confused with the cult science fiction comedy show, red dwarfs are relatively small and cool stars. They are the most popular type of star in the galaxy and the closest star to the sun, *Proxima Centauri*, is a red dwarf star. They are low mass stars with no more than 40 per cent of the mass of the sun, and even the brightest red dwarfs have less than 10 per cent of the sun's luminosity, meaning none can be seen with the naked eye. Red dwarfs undergo a different method of nuclear fusion to the sun, and heat is generated at a slower rate. Such energy saving tactics mean that some red dwarf stars have life expectancies that match the age of the universe itself. Another interesting fact about red dwarfs is that many have planets orbiting around them. In fact, the most likely candidates for habitable planets orbit the red dwarf star Gliese 581.



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 Walking the streets of London:

blog
SPOT

Yesterday we did the Harry Potter walking tour. It was AMAZING. We walked around bits of London I have been to before and [yet] I've never gone from disgusting modern buildings and wide open roads to hidden alleys with all manner of exciting things down them, and past a massive butchers and down a market that makes me remember London is pretty old. I would like to point out, to those of you who shake your heads at how much more uncool I've just revealed myself to be, that I just don't care. We nicknamed yesterday "The Cool Day".



www.imperial.ac.uk/campus_life/studentblogs

Revealing Imperial's 'secret garden'

Hannah Theodorou, an undergraduate in the Faculty of Medicine, reveals one of Imperial's best-kept horticultural secrets.

"The upcoming marquee season always provokes grumbles from students who love lounging on the Queen's Lawn on the South Kensington Campus at lunchtime. However, unknown to many people, there's a larger green haven on campus, which is quieter and more beautiful than both the Queen's Lawn and Prince's Gardens. Affectionately known as the 'secret garden' by College members (officially it's Prince's Gate Gardens), it's a large expanse of grass, trees and rose bushes acquired by the College in the mid 1990s and hidden behind the sports centre, *Ethos*. Tucked inside is the Environmental Society's wildlife garden, which was established in 1999 and is home to herbs, fruit trees, flowers and vegetables planted by members.

My love affair with the secret garden started with a small sage plant I planted in my first year. Almost six years later it is still going strong. The garden's crowning glory, however, is a five-year-old pond which is home to a number of plants, creepy

“My love affair with the secret garden started with a small sage plant”



Prince's Gate Gardens is open to all College members during the day via swipe access.

crawlies and frogs. Friendly robins, bees and butterflies also visit the garden, making it a perfect wildlife habitat.”

The main garden is open to all College members during the day via swipe access through the black gate at the side of Weeks Hall in Prince's Gardens. The wildlife garden is a fenced off area inside the main garden and is open to members of the Environmental Society and visitors.

If you would like to arrange a visit to the wildlife garden, please email esoc@imperial.ac.uk

A marathon and a night shift

Security Officer Steven Michael describes his experience of taking part in his third London Marathon on 17 April before heading back to work.

"There I was again at the starting line, waiting in anticipation for the signal to start. This year, not only did I want to raise money for charity – medical research for children – I also wanted to beat my time. I'd trained really hard and felt fit and healthy. Off I went, the crowds were amazing, they kept me going, shouting out my name. Unfortunately, at the three-mile mark, my neck started to hurt and I had to walk for a while. I'd never walked before but the crowds pushed me on and off I went again. What a great feeling when Big Ben came in sight and I knew I was nearly there. I wanted to achieve three hours 55 but completed it in four hours 45. I was disappointed but, if anything, it will push me to do even better next year. When it was all over I had a cup of tea and headed back to Imperial to start a night shift!"



Global health forum

On 29–30 April, the Institute for Global Health held its first two-day Global Health Forum for Imperial researchers to discuss their work and debate worldwide challenges to improving health. Dr Roger Tatout from the International HIV Clinical Trials Management Office attended the event and reports on the presentations by researchers from the Department of Medicine.

"The forum was a great opportunity to find out more about the research conducted at Imperial to improve the health of people living in countries with few resources. Among the subjects of the presentations were basic and translational research on malaria, TB and HIV. Beyond basic science, Dr Steven Reid's overview of the new CD4 point-of-care

test was most interesting. This test will make a great contribution to the management of HIV in resource-poor settings by replacing expensive western technology with a low-cost but reliable tool. Professor Robert Wilkinson gave a thought-provoking talk about doing research differently in developing countries, favouring training local people and putting them in the driving seat. These approaches, which go beyond basic or clinical science, combined with the understanding of global health issues offered by Professor Peter Piot, Director of the Institute for Global Health, will certainly make a difference in the fight against diseases of poverty. In conclusion, the event was a well-needed breath of fresh air for all those working in a public sphere."



INVENTOR'S CORNER

Vegetable matters

PhD student Abdelhamid Beshara (Civil and Environmental Engineering) explains how his discovery allows waste vegetable oils to be used to develop sustainable housing.

What made you concentrate on waste vegetable oils for your PhD?

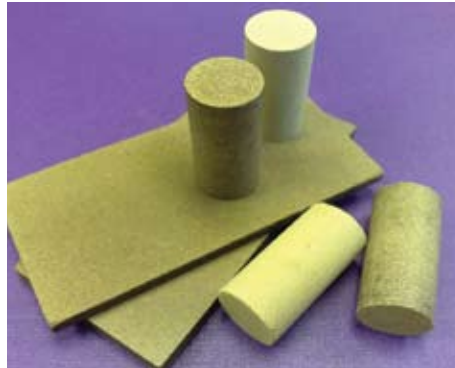
I am originally from Egypt where waste vegetable oils from industry and cooking are in abundance. If they are dumped into the soil they pollute the groundwater affecting biological life whilst remaining highly flammable. These oils are common worldwide, with millions of tonnes needing to be disposed of each year.

What was the aim of your project?

I wanted to improve the processes that already existed by developing a novel polymerisation process to turn the waste into a solid substance, and dispose of vegetable oils in an extremely energy and time-efficient manner.

What led you into your field of research?

When I started my PhD, my scientific background was in structural engineering, but knowing that the world's resources were in dire straits, I wanted to use my skills to help save the environment and achieve sustainable living. I joined the Department of Civil and Environmental Engineering



with little knowledge of this area but, with the help of my supervisors, I now have my first patent on the development of a novel, energy-efficient organic or inorganic composite material.

"I now have my first patent on the development of a novel, energy-efficient organic or inorganic composite material."

Can you describe your invention?

I discovered that solidification reactions are significantly accelerated by mixing high volumes of certain types of clays with waste vegetable oils. The material can then be formed into

a brick shape, which can be used as a construction material. It behaves like wood but with stronger and more durable qualities that are suitable for building sustainable houses.

— ANOUSHKA WARDEN, IMPERIAL INNOVATIONS

www.imperialinnovations.co.uk



Ordinary Thunderstorms

Debby Shorley, Director of Library Services, shares her thoughts on William Boyd's latest novel *Ordinary Thunderstorms*, whose central character applies for a post at Imperial.

"Adam's interview for a research fellowship at Imperial had gone well enough. He rewarded himself with dinner in an Italian restaurant nearby and hope he'd clinched it. But a chance conversation with a fellow diner changed his life forever, propelling him into an extraordinary struggle to survive. Eating seagull meat was one of his least worst experiences as a down-and-out dossing under Chelsea Bridge!

William Boyd's latest novel *Ordinary Thunderstorms* shows how normal lives can easily go horribly wrong. It also paints a scary picture of the barely organised chaos of today's London – from suave South Kensington to distinctly skaggy Rotherhithe.

This novel really is unputdownable – and, as far as I know, a rare example of Imperial featured in fiction. As ever Boyd is far too sophisticated to offer us a moral – but do remember: never remove a knife from a stab wound – for there lies the road to perdition."

To read *Ordinary Thunderstorms* visit the Central Library, code: 800 BOY

Joining the Imperial fellowship



Mr Ram Gidoomal describes his experience of being admitted to the Fellowship of Imperial College London at the Postgraduate Awards ceremony held at the Royal Albert Hall on 5 May.

"My association with Imperial began when I earned a place as a physics undergraduate. After graduating in 1972, I remained at the College as a research assistant until 1975. Nearly 30 years later my relationship with the College was re-established when I was invited to serve on the Court and Council, and was the first chair of the Research Ethics Committee and the Student Trustee Board.

Being honoured at the Postgraduate Awards ceremony was absolutely fantastic, starting with the dinner at 170 Queen's Gate the night before. I had a chance to meet the other new Fellows and colleagues from the Council, as well as academic staff members.

On the day of the graduation, seeing the vintage fire engine, Jezebel, which arrived at 170 to transport us to the Royal Albert Hall, brought back many memories of being a student and having a chance to ride on it was an unexpected delight.

When I received my undergraduate degree nearly 40 years ago, I remember people receiving honorary degrees and fellowships, but I never dreamed or imagined that I would ever receive one. Finding myself standing on the stage shaking the Rector's hand was a very humbling, emotional and moving experience for me."



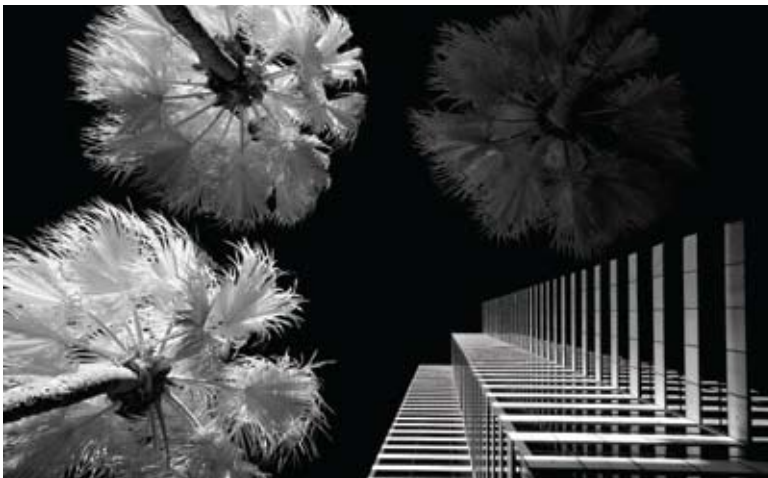
Jezebel, a 1916 Dennis fire engine, is maintained by students from Imperial's Royal College of Science, Royal School of Mines, and City and Guilds College Motor Clubs. She has more than five square metres of brass to polish!

Symposium for Mike Reed

On 6 April a symposium was held at the Roxburghe Hotel in Edinburgh to honour the first anniversary of the death of Professor Mike Reed, Professor of Steroid Biochemistry, and to celebrate his outstanding scientific achievements. The symposium focused on the main area of Mike's research – the production and role of female sex hormones in women with hormone-dependent cancers. Dr Atul Purohit (Medicine), who helped organise the event, shares his memories of his close friend and colleague of over 20 years:

“The meeting was a reflection of the high esteem in which we hold Mike as a scientist. His exceptional scientific achievements illustrated his enthusiasm and dedication to his work. He had great vision and numerous ideas, supported by a thorough knowledge of the field. He did not believe that scientific discovery should be exclusive and felt that important findings should always be shared to encourage further understanding.

He was an absolute pleasure to be around both at work and socially, and his generosity and optimism were felt by everyone around him. All who knew Mike were touched by his kindness, warmth, approachability and humour. It was a tremendous privilege to have known Mike as a close personal friend and professional colleague for many years.”



Travels with *Infra-red*

Dr Richard Szydlo (Medicine), reports on his photography exhibition, *Travels with Infra-red*, at Riverside Studios in Hammersmith in March. Richard donated £283 from the sale of his photos to Leuka – the Division of Experimental Medicine's registered charity, which helps to support leukaemia research being conducted on the Hammersmith Campus.

“Seeing my brother developing black and white photographs at home 30 years ago sparked my interest. As a keen traveller, digital photography allows me to be creative. Using a UV blocking filter, all wavelengths of light visible to the eye are blocked out leaving only the infrared part of the light spectrum, enabling black and white images to take on a dreamlike appearance. The photos I exhibited were taken in a number of locations, from Ethiopia to Elstead Pond in Surrey.

Although I don't work directly with patients who have leukaemia, the need for continuing research is all too obvious. My Polish translating skills are occasionally called upon in the wards, so I have met several leukaemia patients and seen close acquaintances treated in our Department. My exhibition provided me with an opportunity to support Leuka.”

To see Richard's images: www.rsimages.smugmug.com For more on Leuka: www.leuka.org.uk

long
service

Reporter shares the stories of staff who have given many years of service to the College.

—AMNA SIDDIQ, COMMUNICATIONS

SPOTLIGHT

Dr Pankaj Bhavsar, Research Lecturer (NHLI) 20 years



Pankaj Bhavsar began his career at Imperial as a graduate research assistant at the National Heart and Lung Institute (NHLI) in July 1990. After obtaining his PhD in 1995, he was awarded a research grant by the British Heart Foundation, which funded his work until 2000. In 2001, Pankaj became a research lecturer, working first in the Department of Cardiac Surgery for 12 years and then in his current position in the NHLI. His research involves looking at how steroids can help treat asthma and chronic obstructive pulmonary disease (COPD). Pankaj describes working at the NHLI as “being at the cutting edge of research in the field”. Outside Imperial, Pankaj spends time with his three-year-old daughter, and has a great passion for cooking fusion cuisine.

Big questions



New posters which highlight the major challenges that Imperial researchers are tackling are due to appear on hoardings across the College's campuses. Already in place on the South Kensington Campus around Faculty of Engineering buildings under development on Imperial College Road, the posters ask ‘what's coming?’, giving insight into the aims of Imperial's construction projects and showcasing some of the big questions that are being answered by College research. Passers-by are also encouraged to ask Imperial researchers their own burning questions.

Join the conversation and contribute your big questions at: www.imperial.ac.uk/bigqs

Welcome new starters

Dr Ismail Ahmed, Public Health
 Dr Harith Alam, NHLI
 Mr Adriano Balade, Sport and Leisure Services
 Dr Suelen Barg, Materials
 Mr Paul Beavis, Kennedy Institute
 Mr Marco Benozzi, Registry
 Dr Hugo Bronstein, Chemistry
 Ms Michelle Brophy, Medicine
 Dr William Bryant, Molecular Biosciences
 Dr Monica Burriel, Materials
 Miss Jennifer Butler, NHLI
 Dr Byambajav Buyandelger, NHLI
 Mr Robbie Cameron, Medicine
 Ms Mary Cavanagh, NHLI
 Miss Ruth Collins, Surgery and Cancer
 Mr Christopher Conifer, Chemistry
 Mr Kaiyumars Contractor, Surgery and Cancer
 Dr Lucy Cook, Medicine
 Mr Navin Cota, EEE
 Mr Jerome Couturier, Business School
 Mr Rikki Dean, Business School
 Ms Audrey Detoef-Boulade, Biology
 Dr Lydia Drumright, Medicine
 Mr Cedric Duprat, Aeronautics
 Mr Matthew Foreman, Physics
 Mr Markus Fuhrer, Physics
 Miss Shreena Ghelani, Medicine
 Dr Martin Glasser, NHLI
 Dr Silvia Goldoni, Materials
 Dr Tony Gong, Chemistry
 Dr John Gulliver, Public Health
 Dr Simon Harris, Surgery and Cancer
 Miss Nicolette Hayes, Biology
 Mr Anthony Hennelly, Sport and Leisure Services
 Dr Tefvik Ismail, NHLI
 Dr Bernet Kato, NHLI
 Miss Charlotte Knight, Engineering
 Ms Gudrun Knoell, NHLI

Dr Martin Lenz, Physics
 Miss Michelle Lopez, EYEC
 Miss Sanja Maglajlija, EYEC
 Ms Denise Malcolm, Cell and Molecular Biology
 Dr George Marketos, Civil and Environmental Engineering
 Mr Giuseppe Mazza, Computing
 Miss Patricia Melo, Civil and Environmental Engineering
 Dr David Miller, Chemistry
 Dr Snjezana Miodic-Lazarevic, NHLI
 Mrs Gemma Morris, EYEC
 Dr Manuela Mura, Surgery and Cancer
 Dr Sang Nguyen, Aeronautics
 Mr James Nobbs, Chemistry
 Ms Helen Oliver, Mechanical Engineering
 Miss Katherine Ouseley, Business School
 Dr Amit Patel, Clinical Sciences
 Dr Clara Pliego Prieto, Biology
 Mr Rui Policarpo Duarte, EEE
 Dr Megan Povelones, Cell and Molecular Biology
 Dr Philip Pratt, Biomedical Engineering
 Dr Filippo Prischi, Molecular Biosciences
 Mr Richard Ritchie, Business School
 Mrs Agnieszka Rutkowska, Chemistry
 Dr Nicolas Schaeffer, Materials
 Mr Mark Scott, Life Sciences
 Mr Thomas Siegel, Physics
 Dr Isabel Smallegange, Biology
 Mr Matthew Smith, Medicine
 Dr Sheung So, Chemical Engineering and Chemical Technology
 Dr Yi Sui, Chemical Engineering and Chemical Technology
 Mr Yaroslav Tenzer, Mechanical Engineering
 Miss Emily Thornton, Registry
 Mr Paul Tinsley-Marshall, Biology
 Dr Antonio Tralbalza, Medicine
 Ms Anupama Vydyanath, NHLI
 Dr Peter Wass, Physics
 Dr Thomas Weissensteiner, Biomedical Engineering
 Miss Elizabeth Woods, Medicine
 Mr Norman Woolcock, Medicine
 Dr Wei Wu, Chemistry

Farewell moving on

Miss Natasha Aaronson, Medicine
 Mr Barry Anderson, Grantham Institute
 Dr Orestis Argyros, NHLI
 Dr Egidijus Auksorius, Physics
 Dr Jung Bang, Surgery and Cancer
 Dr Mark Bannister, NHLI
 Mrs Bobbie Bernstein, Registry
 Mr Daniel Brielerley, Medicine
 Dr Adam Chaker, NHLI
 Dr Xanthippi Chatzistavrou, Materials
 Dr Anne Chauveau, Cell and Molecular Biology
 Dr Andy Clayton, Surgery and Cancer (9 years)
 Dr Animesh Datta, Physics
 Dr James Diss, Cell and Molecular Biology
 Miss Anna Donaldson, Surgery and Cancer
 Mr Alexander Dunnett, Grantham Institute
 Miss Catherine England, Public Health
 Ms Cecilia Flori, Physics
 Miss Henrieta Fogelova, Imperial College Union
 Dr Asmaa Fritah, Surgery and Cancer
 Dr Fui Goh, Kennedy Institute
 Mr Graham Gunn, Life Sciences (39 years)
 Dr Carla Hernandez Prata, Chemistry
 Dr Yonek Hleba, Chemistry
 Dr Marius Jones, Surgery and Cancer
 Mr Elios Jorisi, Chemical Engineering and Chemical Technology (26 years)
 Dr Ali Karimi, Civil and Environmental Engineering (6 years)
 Ms Agnieszka Karpinska, Mechanical Engineering
 Ms Shiva Keihaninejad, Medicine
 Mr Michal Klosowski, Bioengineering
 Ms Lena Koehler, Surgery and Cancer
 Dr Leonidas Kotoulas, EEE
 Ms Karolina Kowalska, Cell and Molecular Biology
 Ms Irene Larkay, Catering
 Dr Daniel Liber, Surgery and Cancer
 Dr Isobel Llorente Garcia, Physics

Miss Alice Lowry, Library
 Dr Dominika Misztela, Surgery and Cancer
 Dr Mahesh Mohan, Chemistry
 Dr Henry Muss, Facilities Management
 Mr Wieslawa Olszewska, NHLI
 Mr Dan Parsonage, Chemical Engineering and Chemical Technology (22 years)
 Mr Shilpan Patel, ICT
 Ms Helen Pedersen, Public Health
 Dr Ruth Pepper, Medicine
 Mr Victor Perea Orjuela, Catering
 Mr Dominic Pollard, Business School
 Mrs Christina Precht de Hernandez, Medicine
 Dr Alexander Pudney, Biology
 Miss Katherine Roberts, Medicine
 Mrs Lucinda Rufian, Catering (7 years)
 Dr Srijita Sen-Chowdhry, NHLI
 Dr Seif Shaheen, NHLI (14 years)
 Ms Ana Sousa, Biology (11 years)
 Mr Brendon Stubbs, Medicine
 Dr Louise Tatton, Surgery and Cancer
 Dr Mingming Tong, ESE
 Ms Inna Vassiljeva, Catering
 Mr Joshua Vecht, Surgery and Cancer
 Mrs Nia Voase, NHLI
 Dr Nayna Vyas-Patel, Biology
 Ms Sophie Wan, EYEC
 Dr Timothy West, NHLI (6 years)
 Mr Francis Wright, Biology (40 years)
 Ms Heidi Yeung, Molecular Biosciences

This data is supplied by HR and covers the period 14 April – 4 May. 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.

Debating it out in Engineering

Last term Dominic Cottrell, an undergraduate in the Faculty of Medicine and vice-president of the Imperial College Debating Society, was invited to be a member of the panel at the first debate held by the Faculty of Engineering. Other speakers on the panel included Professor Anthony Bull (Bioengineering), Dr Stephen Webster (Humanities) and Imperial's Chaplain, Andrew Wilson. The diverse range of topics discussed included whether engineering students should be discouraged from working for the military, and whether students who pursue careers outside engineering, for example, in the city, have sold their souls. Dominic reports on his experience of the day:

"The panel took their roles seriously, arguing their views clearly yet with persuasive force. The atmosphere was enriched by the students playing a role; both in terms of casting votes as well as offering points and questions throughout.

In the reception after the event, what impressed me was how it allowed the students to see their lecturers in a different light; many found it refreshing to see teachers from different departments exploring new ideas and putting forward arguments, and interacting with current issues as well as students."



Running together to beat cancer

A group of Cancer Research UK-funded scientists from the Department of Surgery and Cancer are training for the London Pride 10k walk and fun run on 4 July. They are raising money for their research, and the ultimate aim is to design new cancer drugs that overcome chemotherapy resistance.

To support the team visit: www.justgiving.com/lam-s-cruk-group

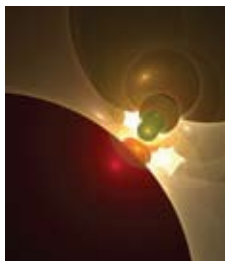


8 JUNE ▶ FRIENDS OF IMPERIAL LECTURE

The hunt for Higgs Boson and the unknown

Professor Jordan Nash and the Imperial High Energy Physics team are searching for the Higgs Boson and other unknown and unexpected forms of matter using the Large Hadron Collider

at CERN in Switzerland. In his lecture he will explain how evidence is emerging and what its implications are for our understanding of the universe. Professor Nash has been working on the project for the last two decades and is the CMS electronics coordinator, which involves making sure that all the electronics read the experiment's results.



16 JUNE ▶ EMMANUELLE CARON LECTURE

From commensals to pathogens, the Yin and Yang of innate immunity

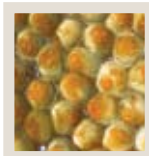
In his talk Professor Philippe Sansonetti from the Collège de France will discuss how it is

likely that the immune system has evolved to tolerate commensal microbiota, particularly in the gut where bacteria can reach considerable numbers, and to quickly recognise and eliminate the pathogenic bacteria that reach and colonise this surface. The lecture is held in memory of Dr Emmanuelle Caron (Life Sciences), who died last year after a brief and sudden illness.

25 MAY ▶ ALMROTH WRIGHT LECTURES 2010

Anti TNF therapy: the foundation of anti cytokine medicine

Professor Marc Feldmann (Kennedy Institute)



26 MAY ▶ CONFERENCE
GaME 10

Games and media event 2010

1-11 JUNE ▶ EXHIBITION

Outreach Exhibition

Exhibition promoting the work of Imperial's Outreach Office

7 JUNE ▶ BIOINFORMATICS SEMINAR SERIES

Predicting human gene function

Professor David Jones, UCL



8 JUNE ▶ LECTURE

The hunt for Higgs Boson and the unknown

Professor Jordan Nash (Physics)

8 JUNE ▶ MUSIC

Lunchtime concert

Leonid Gorokhov (cello),
 Caroline Palmer (piano)

16 JUNE ▶ EMMANUELLE CARON LECTURE

From commensals to pathogens, the Yin and Yang of innate immunity

Professor Philippe Sansonetti,
 Collège de France

16-18 JUNE ▶ CONFERENCE

DRUID Conference

Imperial College Business School



17 JUNE 2010 ▶ SEMINAR

Annual Scientific Research Meeting, Centre for Infection Prevention and Management

Presentations and drinks reception

18 JUNE 2010 ▶ CONFERENCE

Vascular Biology and Arterial Inflammation

British Heart Foundation Centre of Research Excellence Symposium

21 JUNE 2010 ▶ SEMINAR

Systems analysis of Arabidopsis lateral root development: an emerging story...

Professor Malcolm Bennett,
 University of Nottingham

22 JUNE 2010 ▶ MUSIC

Lunchtime concert

Tippett Quartet

24 JUNE 2010 ▶ OPEN DAY

Science and Engineering Undergraduate Open Day

Annual open day

7 JULY 2010 ▶ OPEN DAY

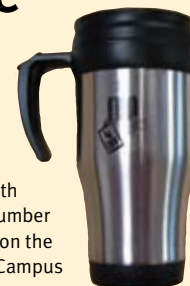
School of Medicine Undergraduate Open Day

Annual open day



take note

Reusable cups on sale



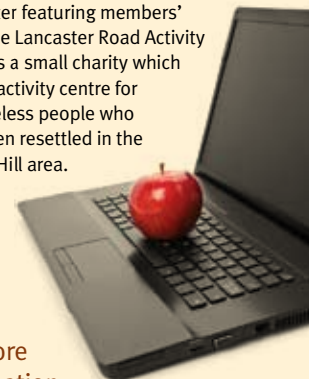
The Catering Department are now selling reusable cups in the Ex Libris Cafe on the Hammersmith Campus and in a number of catering outlets on the South Kensington Campus including the Senior Common Room. Staff and students will receive two stamps to their loyalty card, which can be used in all College catering outlets, whenever they buy a hot drink in their reusable cup. The new cups, costing £2.50 each, will offer a sustainable alternative to disposable cups.

VOLUNTEERING

IT Tutor

Project ID: 970
 Organisation: 240 Project
 Date: Ongoing
 Time(s): Mon, Tue, Wed/one to two hours between 11-16.00
 Location: Ladbroke Grove

Volunteers are needed to help members of the Lancaster Road Activity Project with basic computers skills – ensuring their computers are in efficient working order and helping them to produce a short newsletter featuring members' work. The Lancaster Road Activity Project is a small charity which runs an activity centre for ex-homeless people who have been resettled in the Notting Hill area.



For more information

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

☎ 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

