Imperial College London

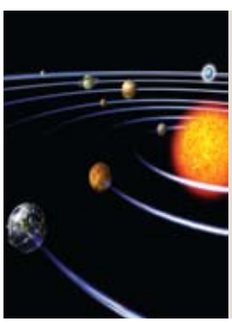
reporter

Issue 208 ▸ 23 July 2009

Sharing stories of Imperial's community

Science on show

Imperial researchers exhibit their work at the Royal Society Summer Science Exhibition CENTRE PAGES



INSTITUTE OF PHYSICS

Four Imperial researchers honoured

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On getting school pupils tuned in to science

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THINK TANK

MBA students make their case for a waterless loo

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EDITOR'S CORNER

Life changing

This month **coach-loads of school pupils** hit our campuses, marking the start of the summer schools season. Every year, thousands of children come to the College to learn and get excited about science, technology and medicine. The impact of the courses arranged by the **Outreach Office** is best seen through the eyes of the participants. This week Outreach received an email from a year 12 student from Preston Manor High School, who took part in the **Medex course** in July for students who are keen to study medicine. He wrote: "At first I was very sceptical of Medex and wondered how much it would really help me. But **I was blown away by how good it was**...the tasks were engaging and varied...I'll never forget my experience. The course helps people who come from state comprehensives for which this opportunity is normally well out of reach." Such an enthusiastic response shows the importance of reaching out to the next generation.

EMILY ROSS, EDITOR
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Reporter is published every three weeks during term time in print and online at **www.imperial.ac.uk/reporter.** *The next publication day is 9 September. We welcome contributions from across the College. Contact Emily Ross:*
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Faculty of Medicine consultation

On 1 July, Professor Stephen Smith, Principal of the Faculty of Medicine, held a series of meetings on different campuses to outline the launch of a consultation on proposals to restructure the Faculty. The proposals, which put academic and related administrative and support posts at risk, are intended to allow the Faculty to support and nurture outstanding staff within a financially sustainable structure. Staff are now being consulted.

In an email to all staff on 6 July, Rector Sir Roy Anderson said that he did not underestimate how hard this period would be and urged staff to support each other. He added: "I understand that news of this sort is unwelcome. Every day, though, we are seeing further examples across the globe of leading organisations facing increasing financial difficulties. But I want to underline one point that we must not lose sight of. Imperial is an international leader because we constantly evaluate our performance, and we do not rest on our laurels."

The proposals will also change the Faculty's organisational structure so that it aligns more closely with academic aims and facilitates collaboration by removing artificial organisational divides. A principal outcome would be the restructuring of the Divisions of Neuroscience and Mental Health, Medicine and Investigative Science into a single new Department of Medicine.

—ABIGAIL SMITH, COMMUNICATIONS

To comment on the proposals email: **fomconsultation@imperial.ac.uk**

Imperial physicists win top awards

Four researchers from Imperial's Department of Physics have been honoured in the Institute of Physics' annual awards—more than at any other UK university.

The 2009 Faraday Medal, one of the Institute's three gold medals, was awarded to Professor Donal Bradley FRS for his pioneering work in the field of plastic electronics. Professor Bradley is Director of the newly established Centre for Plastic Electronics at Imperial.

Commenting on his award, Professor Bradley said: "This award recognises the fruits of a great many, very enjoyable, collaborative interactions."

The Glazebrook Medal of the Institute of Physics, another of the Institute of Physics' gold medals, was awarded to Professor Sir Peter Knight FRS, Imperial's Senior Principal and Professor of Quantum Optics. He received the medal for his outstanding contributions to physics in the UK and globally, through both his scholarship as a pre-eminent atomic and molecular optics theoretician.

The Institute of Physics' Joule Medal was awarded to Imperial's Professor Jenny Nelson for distinguished research in applied physics. Director of Imperial's Doctoral Training Centre in the Science and Application of Plastic Electronic Materials, Professor Nelson's research focuses on a range of novel photovoltaic materials.

The Chadwick Medal for distinguished research in particle physics was awarded to Professor Tejinder Virdee. A professor in Imperial's High Energy Physics Research Group, Professor Virdee is based at CERN, where he is the lead scientist on the CMS detector experiment, one of four particle detectors at the Large Hadron Collider (LHC) particle accelerator.

—DANIELLE REEVES, COMMUNICATIONS

Two new fellows for the Royal Academy of Engineering

Professor Nina Thornhill (Chemical Engineering and Chemical Technology) and Professor Mehmet Imregun (Mechanical Engineering) join 45 other new Fellows elected to the Royal Academy of Engineering this year.

Professor Thornhill joined the College in 2007 to take up a new research Chair of Process Automation, sponsored by engineering company ABB under the Royal Academy of Engineering Research Chairs scheme.

She is leading a five-year programme focused on improving control and process monitoring in the oil, gas and electrical power industries, using signal processing and time series analysis techniques.

Commenting on her fellowship, Professor Thornhill said: "It is a great honour and privilege to be elected to the Royal Academy of Engineering and I am delighted with the news. It also gives recognition to the study of process automation and its contributions to addressing the industrial challenges facing the UK and the world. Engineering is a wonderful career and I am looking forward to participating in the activities of the Academy."

Professor Imregun joined the College in 1979 as an MSc student in Advanced Applied Mechanics and became Professor of Computational Engineering Dynamics in 2000.

He is also the Director of the Vibration University Technology Centre, based at the College and funded by Rolls-Royce plc, which carries out vibration research for the aerospace and power generation industries. His research focuses on improving the design of aeroplane engines for improved structural integrity, reliability, performance and to produce less noise.

> "It is a great honour and privilege to be elected to the Royal Academy of Engineering and I am delighted"

"I was delighted to be elected," said Professor Imregun. He added: "The fellowship highlights the importance of industry-driven research aimed at producing advanced computational tools, as well as for producing cutting edge designs."

—NAOMI WESTON, COMMUNICATIONS

For a full list of the new Fellows, please visit: **www.raeng.org.uk/about/fellowship/newfellows.htm**

Improving the lives of those living with osteoarthritis

The Centre will enable the design and surgical placement of new implants that will minimise invasive surgery.

Imperial has received an £11 million grant to establish a Centre of Excellence in Medical Engineering Solutions for Osteoarthritis from the Wellcome Trust and the Engineering and Physical Sciences Research Council.

In the new centre, researchers will develop new devices to detect and monitor osteoarthritis, create new procedures and implants to make joint replacement surgery less invasive, and develop new techniques to improve how people are rehabilitated following surgery.

Osteoarthritis is a painful condition that degrades the cartilage in joints. It is the most common cause of chronic pain, affecting 8.5 million people in the UK.

Researchers aim to identify the first signs of osteoarthritis so that treatments can be administered early on, to minimise the disease's impact. Some of the work will, for example, identify molecules that are markers in the bloodstream that indicate joint damage. The researchers aim to develop new hand-held devices to help doctors determine whether the therapies that they administer are having any effect on patients by recognising whether there were increases or decreases of disease markers in the blood.

Professor Ross Ethier, principal investigator and Head of the Department of Bioengineering (pictured above), said: "The burden of osteoarthritis is projected to increase in the coming years and it has never been more important to develop new and innovative ways to treat this disease."

The work in the centre will be carried out by teams of clinicians, biomedical scientists and engineers from the Departments of Bioengineering, Mechanical Engineering, Materials, Biomedical Engineering, SORA and the Kennedy Institute.

Osteoarthritis costs the country an estimated £5.5 billion every year.

Researchers will be working closely with colleagues at the Imperial College Healthcare NHS Trust.

—COLIN SMITH, COMMUNICATIONS

Hear researchers discussing the new Centre: **www3.imperial.ac.uk/news/osteoarthritis**

in brief

Quartet of ministers visits College

On 14 July the Prime Minister visited Imperial to launch the Office for Life Sciences Blueprint, a new government vision for healthcare innovation. Gordon Brown was joined by Lord Mandelson, Secretary of State for Business, Innovation and Skills, Lord Drayson, Minister for Science and Innovation, and Lord Darzi, the then Health Minister for Quality and Innovation and Professor of Surgery at Imperial. The Blueprint was launched with a debate on how the environment for life sciences companies in the UK can be transformed to ensure faster access for patients to cutting edge medicines and technologies.

See a slideshow of the ministers' visit: **www.imperial.ac.uk/news/pmvisit**

Darzi's return

Health Minister Lord Ara Darzi (SORA) announced earlier in July that he would step down from his ministerial post to concentrate on his clinical, research and teaching work. Commenting on the move, Rector Sir Roy Anderson said: "Imperial is delighted Lord Darzi will have more time to commit to the academic and clinical front line—this is warmly welcomed news."

Good employment prospects for Imperial graduates

Employment prospects for Imperial graduates in 2008 remained buoyant, according to the latest figures from the Higher Education Statistics Agency (HESA). Performance indicators released on 16 July show that 93.9 per cent of College leavers were in employment or full-time study six months after graduation, a small rise on the 2007 figure of 93.5 per cent. This compares to the national figure of 91 per cent.

> "At Imperial we pursue science, engineering and medicine at the highest level, and that requires access to instruments which are becoming too large to put in a single laboratory."

—PROFESSOR SIR PETER KNIGHT ON RAMIRI—THE IMPERIAL-LED PROGRAMME AIMING TO ACCELERATE DEVELOPMENT OF THE NEXT GENERATION OF LARGE-SCALE RESEARCH FACILITIES IN EUROPE.

Imperial College Healthcare NHS Trust

Banking on volunteers

Speeding up the passage of treatments and therapies from the bench to the bedside is the aim of a new database of healthy volunteers who are happy to participate in clinical research studies.

The database will give investigators access to a pool of volunteers who have already been screened for Phase 1 clinical trials, investigating new drugs and dietary products, and studies into different specialities such as cardiovascular, respiratory and metabolic medicine.

Karen Mosley, general manager at the Sir John McMichael Centre at Hammersmith Hospital (where the resource is being developed), said: "Traditionally investigators had to advertise for volunteers every time they started a new study. This is a costly and lengthy process and can lead to 'false screening' where those who volunteer turn out not to be suitable to take part.

"The database will cut the cost and time involved in recruitment and mean we can capture those volunteers who might not be suitable for a particular study, but could be suitable for others."

The database aims to attract more commercial studies to the Trust too, increasing revenue for the Academic Health Science Centre.

"By reducing the time it takes to complete a study, we can ultimately increase publication rates and expand research portfolios," said Karen. "In a wider context it means we can streamline the bench-to-bedside process and bring new drugs to market quicker."

A weighty recognition

Imperial College Healthcare NHS Trust has been named as an international centre of excellence for bariatric surgery. The Imperial Weight Centre at Charing Cross Hospital has been awarded the prestigious designation by Surgical Review Corporation (SRC), which assesses the safety and quality of bariatric centres across the world.

Bariatric
The branch of medicine that deals with the causes, prevention and treatment of obesity.

Imperial is one of only two centres in the UK to meet SRC's rigorous assessment process for international designation.

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

Senior appointments: Deans

The following appointments have been announced this month:

Professor Jeff Kramer (Computing), currently a Dean for the Faculty of Engineering, will succeed Professor Christopher Isham (Physics) as Senior Dean from 1 September 2009 to 31 August 2010.

Professor Richard Vinter (Electrical and Electronic Engineering) will succeed Professor Kramer in his role as Engineering Dean from 1 September 2009 until 31 August 2012.

Professor Nigel Gooderham (SORA) will succeed Professor Jackie de Belleroche as Non-clinical Dean for the Faculty of Medicine from 1 September 2009 until 31 August 2012.

Professor Chris Phillips (Physics) will succeed Professor Denis Wright (Life Sciences) as one of the Deans for the Faculty of Natural Sciences until 31 August 2011.

Professor Denis Wright is stepping down as one of the Deans for the Faculty of Natural Sciences to succeed Professor David Lloyd Smith, who retires on 30 September 2009, as Dean of Students.

Dreaming up the products of tomorrow

This month, the first cohort of MBA students to complete the Business School's Innovation, Entrepreneurship and Design course (IED) presented their business plans to the coaches and academics who had been involved in the programme. IED is new course designed to give students an insight into the challenges of introducing novel products and services to market by developing a plan for a real-world business idea.

Seventy per cent of the products and services we will be using in the next 10 years have not yet been invented.

The course, which is now a compulsory element of the Imperial MBA, blends mentoring with lecturing, monthly workshops, and the use of online resources. Over the past six months, the students have assessed and developed business plans for emerging innovations from science, technology and business ideas from the world of design and industry.

Bart Clarysse, head of the Entrepreneurship Hub at the School and IED course leader (pictured left), commented on the new teaching programme:

"Seventy per cent of the products and services we will be using in the next 10 years have not yet been invented," he said. "This programme seeks to develop the products and services that will be part of everyday life by bringing together people, skills and ideas from a range of disciplines to address real world problems. It's a new and exciting model for teaching which we're hoping to further improve and refine for next year's cohort."

In the year since the IED programme was launched, 33 teams drawn from the three MBA programmes have each worked on a unique project. Many of the teams had Design London Fellows (engineers and designers) assigned to them.

A number of the projects were initiated by industry partners including Cancer Research UK, BAE Systems and QinetiQ. Five of the proposals deemed to have investment potential will now enter a final business plan competition with a cash prize of £10,000 for the winning plan. This will be judged by a panel of professional investors.

—ELLIOTT WHITE, IMPERIAL COLLEGE BUSINESS SCHOOL

See page 12 for an insight into one of the projects and, to find out more, visit: **www.imperial.ac.uk/entrepreneurship/services/ied-projects**

media mentions

—ABIGAIL SMITH, COMMUNICATIONS

JOIN OUR MAILING LIST for regular news, information and website alerts: **www.imperial.ac.uk/media/jointsignup**

EVENING STANDARD ▸ 23.6.2009

Don't bin the banks

Governments might have been better advised to save Lehman Brothers than let it pay the ultimate price for its risk-taking, suggests Professor William Perraudin (Business School) in the *Evening Standard*. Arguing that banks are so interwoven with the rest of the economy that you can't lose one without unravelling the whole thing, he writes: "If a water utility goes bankrupt, you transfer the ownership rather than substituting a new network of pipes." He concedes that recent events suggest that banks should be regulated more robustly, but adds: "In intervening, however, we should be careful to reinforce rather than to hobble our financial system through unintelligent regulation. Whatever one thinks about bankers and their remuneration, as we have seen this year, the smooth functioning of the economy depends on their efforts."

THE TIMES ▸ 2.7.2009

End of the line for UK transport?

The nationalisation of the East Coast Mainline, following National Express's admission that it could not afford to run the route, has focused attention on how squeezes on public spending are likely to affect the UK's transport infrastructure. Professor Stephen Glaister (Civil and Environmental Engineering) tells *The Times*: "Transport is always the department that tends to get the tough end of the cuts because it is capital intensive and you can do short term cuts without the results being visible for quite a while. And that's against the picture of a growing market in road and rail. Just to stand still we have to spend a lot of money and that is looking quite unlikely."

BBC NEWS ONLINE ▸ 2.7.2009

'Forgotten cancer' needs better funding

Brain tumours are the 'forgotten cancer', attracting only 1 per cent of the UK cancer research spending budget, according to the charity Brain Tumour Research, which is campaigning for increased funding.

Supporting the calls, Kevin O'Neill (Neuroscience and Mental Health) tells the BBC: "They can't be prevented or screened for as we don't know the cause. It is frustrating that treatment options are so limited. More research is desperately needed but we are struggling to get funds."

BBC NEWS ONLINE ▸ 7.7.2009

Experts reject climate change rethink

A report by an international group of academics calling on world leaders to abandon and rethink their current policies on climate change has been criticised by environmentalists, reports the BBC. The report urges G8 nations to focus on improving energy efficiency and decarbonising energy supply rather than on overall emissions cuts. Professor Tom Burke (Centre for Environmental Policy) says the authors are right to be concerned about the effectiveness of political responses to climate change, but adds: "Nothing could be more harmful than to propose that the world stop what it is doing on climate change and start again working in a different way. This is neither practical nor analytically defensible—and it seems to have been born more out of frustration than understanding of the nature of the political processes involved."

awards and honours

ENGINEERING

Ioannides receives highest accolade

Visiting professor Strathis Ioannides (Mechancial Engineering) was awarded the Tribology Trust Gold Medal in June at Buckingham Palace. This is the highest honour in tribology, which is the science of lubrication.

MEDICINE

Student wins Foulds Trophy

Clinical ophthalmology trainee, Mariya Moosajee (Neuroscience and Mental Health) presented her PhD work at the Royal College of Ophthalmologists Annual Congress in June. In recognition, she was awarded the the Foulds Trophy, which is considered the most prestigious UK research prize an ophthalmology trainee can win. Her work is part of a programme to identify new pharmacologic approaches to treating diseases of the retina—the commonest causes of blindness in the developed world.

MEDICINE

Scholarship prize for Dr Ahmad

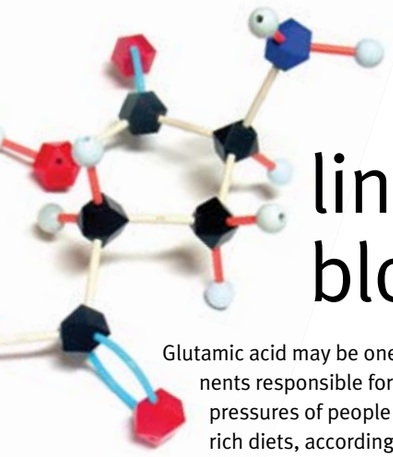
Dr Sheraz Ahmad has won the Rees Rawlings Certificate of Advanced Study in Learning and Teaching (CASLAT) Prize. CASLAT is a postgraduate qualification for those who teach in higher education. Dr Ahmad, who previously taught Imperial medical students, was presented with an engraved clock and a book token by the former Pro Rector for Education, Professor Rees Rawlings, on 1 June 2009.

ALSO...

Young Life Scientist • In June Dr Kim Van der Heiden (NHLI) won the Promega UK Young Life Scientist Award for 2009. Dr Van der Heiden presented her work entitled 'Shear stress and sulforaphane protect arteries from inflammation by activating the transcription factor Nrf2'.

Investigator of the Year • Postdoctoral researcher Dr Jerome Lafont (Kennedy Institute) was awarded the 2009 Young Investigator of the Year Award from the British Society for Matrix Biology.

Green Week competition • Students Adele Peel (Mathematics) and Steven Johnson (Physics) have won Imperial's Green Week competition sharing the £1,000 prize for their suggestions on how to make Imperial more sustainable.



Glutamic acid linked to lower blood pressure

Glutamic acid may be one of the components responsible for the lower blood pressures of people with vegetable-rich diets, according to a study published in *Circulation: Journal of the American Heart Association* (6 July). Glutamic acid is a major component of protein; higher levels of glutamic acid are contained in vegetable protein than in animal protein.

Previous research by the authors, from Imperial and Northwestern University, Chicago, in collaboration with other institutions in the US, Japan and China, showed that people with more vegetable protein in their diet tend to have lower blood pressure. The new research suggests that glutamic acid may be one of the components of vegetable protein linked to lower blood pressure.

The researchers looked at diet and blood pressure data from over 4,000 people. They analysed the amount of five amino acids in people's diets and found that, on average, people who consume more glutamic acid have lower blood pressure than those who consume less.

Dr Ian Brown (Epidemiology, Public Health and Primary Care), co-author of the study, said: "After we observed that vegetable protein in the diet was linked to lower blood pressure, we wanted to know what elements of vegetable protein might be responsible. Our new research suggests that glutamic acid may partly explain the link between vegetable protein and lower blood pressure".

"The next steps will be to reproduce this finding in other studies, and investigate how glutamic acid might exert an effect on blood pressure. However, there is no 'magic bullet' for preventing high blood pressure, and vegetable protein and glutamic acid are individual elements of a broader healthy eating pattern," added Dr Brown.

—LUCY GOODCHILD, COMMUNICATIONS

The mystery of the **shrinking sheep**

Milder winters are causing Scotland's wild breed of Soay sheep to get smaller, despite the evolutionary benefits of having a large body, according to new research published in *Science Express* (2 July).

The new study provides evidence for climate change as the cause of the mysterious decrease in the size of wild sheep on the Scottish island of Hirta, first reported by scientists in 2007.

Imperial researchers from the Department of Life Sciences believe that, due to climate change, survival conditions on Hirta are becoming less challenging, which means slower-growing, smaller sheep are more likely to survive the winters than they once were.

Classical evolutionary theory suggests that over time the average size of wild sheep increases, because larger animals tend to be more likely to survive and reproduce than smaller ones. However, among the Soay sheep of Hirta, a remote Scottish island in the St Kilda archipelago, average body size has decreased by approximately 5 per cent over the last 24 years.

Lead author Professor Tim Coulson (Life Sciences) suggests that shorter, milder winters, caused by global climate change, mean that lambs do not need to put on as much as weight in the first months of life to survive to their first birthday as they did when winters were colder.

He explains: "In the past, only the big, healthy sheep and large lambs that had piled on weight in their first summer could survive the harsh winters on Hirta. But now, due to climate change, grass for food is available for more months of the year, and survival conditions are not so challenging—even the slower growing sheep have a chance of making it, and this means smaller individuals are becoming increasingly prevalent in the population."

—DANIELLE REEVES, COMMUNICATIONS

Mobile pollution monitors trialled across the UK

On 30 June, Imperial scientists tracked the quality of the air around pedestrians, cyclists, buses and cars throughout their journeys in a demonstration of new mobile wireless sensors.

The sensors, which were attached to the vehicles and volunteers, measured multiple types of traffic emissions and noise pollution. Three types were tested in the demonstration, including one worn by pedestrians and cyclists that used their mobile phone to transmit the data. The team received data from 100 sensors deployed in South Kensington, Leicester, Gateshead and Cambridge to test how they operated from different locations.

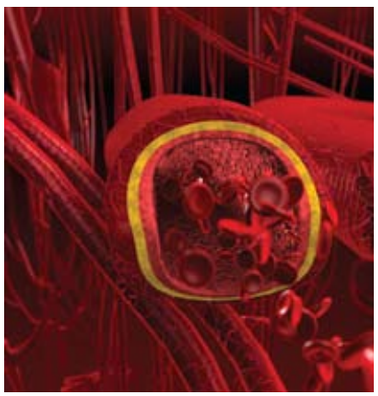
> "There is a lot that we do not know about air quality in our cities and towns"

New sensor technology means that researchers can now measure and model air quality in unprecedented detail to improve their understanding about pollution hotspots and analyse the factors, such as bad urban design, that contribute to poor air quality. The scientists also modelled pollution clouds in three dimensions around traffic lights and street lamps by attaching sensors to them, to understand how the clouds form, linger and dissipate in high emission zones.

"There is a lot that we do not know about air quality in our cities and towns because the current generation of large stationary sensors doesn't provide enough information," said project director, Professor John Polak (Civil and Environmental Engineering). "We envisage a future where hundreds and thousands of mobile sensors are deployed across the country, to improve the way we monitor, measure and manage pollution in our urban areas."

—COLIN SMITH, COMMUNICATIONS

Blood vessel bends and branches put the brakes on statins



Imperial research published in *Journal of Biological Chemistry* (10 July) suggests for the first time that the way blood flows through our arteries may boost an antioxidant effect of statin medicines.

The discovery is the first evidence of biomechanical forces affecting the action of a commonly-used drug, and could point the way towards new targets to improve artery health throughout the body.

Statins lower harmful LDL cholesterol—in 2008 nearly 50 million statin prescriptions were written for people at high risk of heart attack in England, where they are estimated to save nearly 10,000 lives each year. The drugs are also thought to have other heart-protective actions, which may include their ability to produce anti-oxidants in the cells of our arteries by boosting levels of the enzyme heme oxygenase-1 (HO-1).

> "Arteries don't clog up in a uniform way"

Researchers in cardiovascular sciences at Imperial investigated the anti-oxidant potency of statins in different parts of the circulation by measuring the amount of HO-1 in endothelial cells that line arteries.

Dr Justin Mason, team leader from Imperial's National Heart and Lung Institute, said: "Arteries don't clog up in a uniform way. Bends and branches of blood vessels—where blood flow is disrupted and can be sluggish—are much more prone to fatty plaques building up and blocking the artery. What we've shown is that those regions of the arteries most likely to become diseased are the same regions that may not be benefiting maximally from statin treatment—a double whammy."

Dr Mason's research was funded by the British Heart Foundation.

—BRITISH HEART FOUNDATION PRESS OFFICE

Current search for heart disease treatment may not be fruitful

A protein used by doctors to indicate a patient's risk of coronary heart disease may have drug developers barking up the wrong treatment tree, according to the authors of a study published in the *Journal of the American Medical Association* (30 June).

Imperial researchers suggest that C-reactive protein, an enticing target for scientists working on new treatments for coronary heart disease, may not have a role in causing the disease, even though it is a predictive marker.

> "We have also discovered new genetic variations that are associated with coronary heart disease."

Coronary heart disease is the leading cause of death worldwide and is caused by atherosclerosis, where plaques and fatty acids build up in the walls of the arteries.

The progression of the disease from early to later, sometimes fatal, stages involves inflammation. There is strong interest in measuring levels of C-reactive protein in a patient's blood, because it is a marker of inflammation.

Professor Paul Elliott (Epidemiology and Public Health), lead author of the paper, said: "Coronary heart disease is a common cause of death, especially in the UK and other western countries, and scientists have been looking for new ways to treat the disease and reduce mortality. Some researchers thought C-reactive protein would be a good molecule to target, as raised levels of this protein in the blood are associated with increased risk of coronary heart disease. However, our research suggests that the association may not be causal, so attempts to target this protein to reduce the risk of the disease are unlikely to be fruitful."

"We have also discovered new genetic variations that are associated with coronary heart disease. If confirmed in other studies, these might give clues to identify new targets to treat the disease," added Professor Elliott.

The study, was conducted in collaboration with researchers from 12 other universities and institutes in Europe and North America.

—LUCY GOODCHILD, COMMUNICATIONS

Moles hold key to melanoma genes

Researchers from Imperial, King's College London, the Wellcome Trust Sanger Institute, Brisbane Queensland Institute of Medical Research and the University of Leeds have found novel *loci* (DNA sequences in the genome) on chromosomes 9 and 22 associated with melanoma risk, according to a study published in *Nature Genetics*.

DNA sequences on chromosomes 9 and 22 have been found to be associated with melanoma risk.

Melanoma incidence has risen rapidly over the last 30 years, so discovering genes that may predict those most at risk of this deadly tumour may prevent increased cases of mortality. It is already known that large numbers of moles are the most important risk factor for melanoma—more so than over-exposure to sunshine or use of sunbeds.

Dr Mario Falchi (Genomic Medicine), first author of the study, said: "In this study we identified variants in two new *loci* that confer risk of developing melanoma, most probably by regulating the number of moles. Approximately one in 11 people of European ancestry carry these risk variants at both *loci*. These people show twice the number of moles and double the risk for melanoma."

The scientists were able to examine differences in people's DNA code at a third of a million sites by carrying out a genome-wide association study. This revealed the two novel *loci* for melanoma, which could be useful for screening and in understanding genetic pathways.

Dr Veronique Bataille, King's College London Consultant Dermatologist, said: "Moles are common in all European populations and the chance of any of them changing into a melanoma is very small. However, if you do have many moles, especially large moles, it is recommended that you have them checked."

—LUCY GOODCHILD, COMMUNICATIONS

The height of **summer science**

The last week of June in London is traditionally associated with the start Wimbledon and, closer to home, festivities to mark the end of the academic year. But in central London, at the top of the Duke of York steps overlooking the Mall, a different kind of celebration takes place—one which is all about science.

Above: PhD student Kieran O'Donnell, who works with Professor Vivette Glover, examines a human placenta—part of the exhibit about the effects of maternal stress on unborn babies. He says: "Taking part was totally surreal—talking to school children one moment and Nobel prizewinners the next...It was an amazing experience and I would recommend it to anyone."

For a few days each year, the Royal Society—the world's oldest learned society for science—throws open its doors to over 4,000 visitors as part of its annual Summer Science Exhibition and soirées. The organisation more traditionally famous for its coveted fellowships for the best scientists evolves into a maelstrom of activity as researchers from all over the UK run interactive exhibitions to illustrate their science. Over the next four days, they talk themselves hoarse as they entertain, surprise and even learn from the vast range of visitors who swarm throughout the listed building from 10 in the morning until late at night.

Sense of history

The Society first introduced the idea of inviting guests to an evening reception to meet its president and fellows back in 1850. Visitors could also inspect the Society's collection of scientific instruments and other displays about recent advances in scientific research. The event became an annual tradition and, with the exception of the period during the Second World War, has been held every year since then.

It was not until 1992 that the Society decided to cast its net wider by adding a daytime public exhibition to the evening soirées. The Society's motto *nullius in verba* roughly translates as 'take nobody's word for it'. The exhibition is the ultimate expression of this, with opportunities to prove things for everyone—from school children to Nobel prize winners, members of the general public to the royal family and senior politicians.

"This year was the first time we opened at the weekend, and nearly 1,000 people visited on the Saturday—many of whom were first-time visitors," says Sir Martin Rees, the Society's president. "What is special about the exhibition is that visitors get an unusual opportunity to meet and talk with the actual scientists responsible for the research that's on show."

Visitors also get to take part in experiments, and find out what it is like to be a scientist. For researchers, it's an opportunity to take their science out of the lab and discuss it in new ways with different people. Competition to take part is tough—only one in five entries gets through, with a total of 20–30 exhibits selected each year. This year Imperial had a record five stands featuring College research.

Picture of public health

One of this year's Imperial exhibits showed research on how maternal stress and anxiety can alter the way a baby's brain develops. Professor Vivette Glover, from Imperial's Institute of Reproductive and Developmental Biology, wanted to use the event to help people become more aware of the importance of reducing stress in expectant mothers, to help prevent children from developing emotional and behavioural problems. Vivette describes her experience of the exhibition:

"To be honest, it exceeded all my expectations. It taught me and my research group how to talk about our work in new ways, to reach the people who can benefit directly from our research. This was nothing like a scientific conference, and it gave all of us new experiences."

One of those new experiences was the surprise hit of having a real placenta encased in strong plastic on the stand. People could pick it up and get a sense of its weight and size. "You might think that having a human organ would have driven away the more squeamish visitors, but it proved to be very popular. People love having something to touch. It was the perfect illustration for our research, because the protection that the placenta provides can be undermined when a mother is stressed, resulting in more of the stress hormone cortisol reaching the baby."

"I was also surprised by how questions from the media and members of the public prompted me to think about other solutions to the public health issues raised by our research. Until recently, I had only thought in terms of more professional help for pregnant mothers. Thanks to the exhibition, I am now thinking in different ways about what society can do, and how we might change public health policy."

> "It gave me a thrill to walk past portraits of two of the distinguished scientists who taught me in my early career"

For Vivette, there was also another welcome reason to be taking part: "The Royal Society represents something very special about the history of science. I confess it gave me a thrill to walk past portraits of two of the distinguished scientists who taught me in my early career on the way to the café. It was exciting to feel part of that history."

Exhibitors turned visitors

Among the visitors this year was Dr John Tisch's research group from the Department of Physics. They took part in the 2008 exhibition with a display about observing the inner workings of atoms. *Can we freeze time?* proved particularly popular with visitors, who received a slow motion film of themselves with a water balloon bursting in their hand, to draw parallels between different kinds of high-speed photography. John explains what it was like to return to the event from the other side of the fence, as a visitor rather than an exhibitor.

"Going back as a group reminded me of the great deal of fun we had last year," enthuses John. "The experience certainly helped bring us together as a research team—there's nothing like the stress of that kind of event to build strong bonds."

"I look back on that week with immense fondness. It was interesting being able to track how the films we gave people proliferated on *YouTube*, and to follow the online conversations that took place as a result. The legacy for me also includes the healthy reminder that however fascinating your own work, it's good to remember that your contribution is only ever one part of the much bigger picture of science."

A visitor to the Royal Society Summer Science Exhibition plays with a remote control dog used by researchers to test emotional responses, as part of Vivette Glover's work.

Summer 2010

Next year's extended Summer Science Exhibition will be the pinnacle of the Royal Society's 350th anniversary celebrations, and will also coincide with the BBC's Year of Science. To celebrate in appropriate style, the exhibition is moving to the Southbank Centre, as part of a nine-day festival (26 June–4 July 2010).

"Events will include collaborations with artists and performers, debates, broadcasting, and a grand convocation of the Fellowship", says Sir Martin. "The exhibition will form the high-profile centrepiece of the Society's anniversary celebrations, when we hope to rekindle a spirit of enquiry, excitement and engagement with scientific ideas and to demonstrate that science is as much a part of our culture as are the arts and humanities."

—NATASHA MARTINEAU, COMMUNICATIONS

To apply to exhibit at the 2010 Summer Science Exhibition visit: **www.royalsociety.org**
Application deadline **31 July 2009.**

Imperial exhibits and lead exhibitors 2009

Can what happens in the womb last a lifetime?
The effect of a mother's stress on her unborn baby
Professor Vivette Glover, Institute of Reproductive and Developmental Biology

Quantum of sol—the next generation of solar cells
Can nanotech solar-power the future?
Dr Ned Ekins-Daukes, Physics

How do shapes fill space?
Understanding designs in nature
Professor Jeroen Lamb, Mathematics

From the oldest light to the youngest stars
How the Herschel and Planck Missions will transform what we know about the universe
Dr Dave Clements, Physics

You're never too young to be a research scientist
Collaboration with the Langton Star Centre
Professor Steven Rose, Physics

High speed science

To watch videos from John Tisch's 2008 exhibit using a high-speed camera to show water balloons bursting, visit Imperial's Summer Science playlist on *YouTube*: **http://bit.ly/18ySU1**

inside* story

inventor's corner

Solving double vision

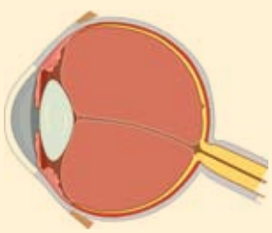
Dr Parashkev Nachev (Clinical Neuroscience) and his colleague Dr Mathieu Robert have developed contact lenses that address the problems associated with binocular diplopia, commonly known as double vision.

Double vision is the simultaneous perception of two images of a single object which can significantly disrupt patients' daily lives. Each year, diplopia affects around 50,000 people in the UK and, although there are currently treatments available, such as wearing prism lenses, surgery or occluding (fully blocking the vision of) one eye, none of these options deals with both the functional and aesthetic problems.

> "Having made something which will be of real benefit to a patient's life is such a rewarding feeling"

Drs Nachev and Robert conceived the basic idea while waiting for a patient in the neuro-ophthalmology clinic. Dr Robert recalled a story about a French doctor who had irreversibly treated his diplopia patients by laser reduction of the central part of the retina in one eye. This was an extreme procedure but patients welcomed it because their double vision disappeared.

The colleagues, then working together in the Department of Clinical Neuroscience, thought there must be a way to achieve this without damaging the eye and set about designing a correction contact lens. By contrast to existing lenses that 'black out' the vision like a modern day eye patch, the new lens only abolishes the diplopia, with minimum impact on the rest of the vision in the eye, and is also cosmetically more acceptable. Dr Nachev says: "Having made something which will be of real benefit to a patient's life is such a rewarding feeling."



Double vision affects 50,000 people in the UK.

The inventors sought funding from the joint Imperial Innovations/Johnson & Johnson Proof of Concept Fund which was established in 2006 and is currently supporting initial product development and preliminary clinical trials.

If the trials are successful, major contact lens manufacturers will be invited to consider licensing the technology for commercialisation.

—ANOUSHKA WARDEN, IMPERIAL INNOVATIONS

www.imperialinnovations.co.uk

mini profile

David Phillips

Professor David Phillips OBE (Chemistry), has just been named President Elect of the Royal Society of Chemistry. He speaks to *Reporter* about glass babies, the importance of Outreach and why the UK can't afford to not invest in science and technology.

You're renowned for your demonstration lectures aimed at enthusing children about science—who inspired you as a student?

Lt Col. Dr Brian Shaw from the University of Nottingham gave extraordinary lectures on explosions which have always stuck in my mind. I can remember sitting in the brand new lecture theatre at Birmingham University and, as each explosion got louder and louder, I could see the faces of the professors going into panic mode, wondering if Colonel Shaw was going to blow up the new facility!

At one time you were doing 40 demonstration lectures a year—why do you keep doing them?

The selfish reason is that I enjoy standing up in front of an audience to entertain and inform them. The other reason is that I think it is hugely important. As a nation I think we underestimate the importance of science at our peril—the demonstration lectures are my way of doing my bit to encourage children to take science seriously.

You say 'seriously' but aren't your lectures supposed to make people laugh?

I am a great believer in using humour—luckily my father was a stand-up comedian so he's passed on his knack for amusing people. At the same time I am not in favour of simply doing a magic show—there always has to be real science behind what I do.

What's your favourite demonstration lecture?

I'm probably most famous for my lecture involving a glass baby, which has a strategically placed stopcock so it looks like a male child. I use it to demonstrate the treatment of neonatal jaundice—babies who have jaundice when they are first born. The cure is to use blue light to induce a photochemical reaction that twists the molecule and makes it water soluble so then it can be excreted. I use the glass baby to show how this works and it ends with the baby peeing into a potty—this lecture always goes down well with children of all ages.

You are President Elect of the Royal Society of Chemistry—what does that mean?

The presidency is a four-year commitment—I'll spend a year shadowing the current president, two years as president and then a year supporting the new president. I've been involved with the RSC since the 60s. It has developed into a really vibrant society with a good mix of academics and industry, and a strong voice in parliament—it's an exciting organisation to be representing.

Professor Phillips demonstrates neonatal jaundice with his infamous glass baby.

What issues are you keen to tackle in your new role?

We are facing a severe pruning of research budgets in the UK—we are going to have to work together as a society to try and combat the effects. This will involve lobbying government to explain that the way out of our economic problems involves science and technology—these areas shouldn't be neglected in favour of short-term measures.

—EMILY ROSS, COMMUNICATIONS

Graduation for INSPIRE postdocs

On 9 July, a graduation ceremony was held for the seven Imperial postdoctoral researchers (some of whom are pictured above) who over the last academic year have successfully completed Imperial's INSPIRE scheme. The programme saw participants spend seven months studying towards a Postgraduate Certificate in Education then two months conducting workshops, university style practicals, demonstration lectures, science clubs and university visits for school, with the aim of encouraging more students to study science in higher education. Out of the seven graduates, six have chosen to pursue a career in teaching.

For more information on the INSPIRE scheme visit: **www.imperial.ac.uk/inspire**

Debating **science journalism**

Earlier in July almost 1,000 science journalists, editors and broadcasters from across the planet descended on Westminster to attend the 2009 World Conference of Science Journalists. The event, which ran from 30 June–2 July and included sessions held at Imperial, was an opportunity for science writers to develop their skills, share experiences, network with each other and debate issues of burning interest to the science communication community. John Pickerell, Deputy Editor of Australian popular science magazine *Cosmos* and an Imperial alumnus, reports on the conference.

"One of the highlights of the week for me was being able to spend some time back at Imperial again, at a journalism skills workshop on the first day of the conference and for a tour of some of the university's high-tech facilities, including labs in the biomedical engineering building, on the final day of the week.

Another highlight of the conference was having the opportunity to meet reporters and editors from countries as far flung as Argentina, Korea, Pakistan and Egypt, and get their different perspectives on science and reporting it. Aside from *Cosmos*, other notable publications with staff in attendance included *The New York Times*, *Scientific American*, *New Scientist*, *Science News*, *Discover* and many others, including the BBC and all of the UK's broadsheet newspapers.

Much of the buzz in the daytime sessions and evening events—which included workshops on covering climate change, podcasting, blogging, writing popular science books and science fiction writing—was related to the 'crisis in science journalism'. This refers to the impact of the credit crunch and the merging of video journalism, podcasting and blogging with more traditional print journalism."

Graduate schools symposia

Imperial's two graduate schools ran research conferences in July. Postgraduate student Toby Woods (Biomedical Engineering) reports on the event held by the Graduate School of Engineering and Physical Sciences on 15 July.

"Pursuing a PhD can sometimes be an isolating experience. There are around 5,000 postgraduate students currently studying at Imperial, and outside my immediate research group of five, I have close to no clue what they all do. So for me, the main draw of the annual GSEPS Symposium is simply the chance to actually see what my fellow students are up to. Oh, and the chance to win £300 is certainly a plus.

The format is simple. You attempt to cram an entire year's worth of work into a single page (admittedly, A1-sized), then stand in front of it and talk two judges through the content. Obviously, the more pretty pictures you have the better, which is handy as my current research is about how to best visualise our complex data sets! Once that's done you get to wander around and view the other posters, which are stunningly diverse. They range from the hardcore theoretical (novel laser types) to shockingly practical (flywheels for energy efficient trains) via the whimsical (classifying computer gamers by monitoring them playing Pac-Man) and political (private train franchises are shorter than the lifetime of trains, so no-one buys new ones). There seemed to be a lot about trains.

Finally, after an excellent talk from Dame Julia Higgins which included a description of her exploits as Foreign Secretary to the Royal Society, perhaps the best job I have ever heard of, the winners were announced. This year's first place was truly outstanding—a poster on how best to create biodiesel from waste cooking oil. Complete with chips frying as the background!"

SCIENCE FROM SCRATCH

As explained by Chloé Sharrocks, MSc Science Communication

Free **radicals**

Free radicals are atoms, molecules or ions with unpaired electrons in the outermost electronic shell. These unpaired electrons are usually highly reactive, making free radicals an important part of many chemical and biological processes.

Today, the term 'free radical' is frequently used in the promotional advertising of beauty and health products. The free radical theory of ageing suggests that organisms age because their cells are damaged by the free radicals, which the body produces by breathing and breaking down food.

As a result, free radicals have been implicated in causing a number of diseases such as dementia, cancer and heart disease—although research is still inconclusive.

Antioxidants, such as beta carotene (found in carrots) and vitamins C and E, are believed by some to neutralise free radicals and thus prevent our bodies' cells suffering damage.

Is there a phrase 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.

blog SPOT

Student blogger Jaimie on

the end of the year:

"The last few weeks have passed in a haze of what could quite happily be expressed as some of the most stressful weeks of my life: alcohol, working, relationship woes, mild depression, letting agents and all the misery associated with utility companies, and kebabs. Glamorously, it has ended up with one of my flatmates in the south of France, the other in Wales, and me...well, obviously I'm sitting in this godforsaken oven of a flat whilst a man cleans the flat for a king's ransom. Honestly, he should be wearing a mask and a striped jumper."

www.imperial.ac.uk/campus_life/studentblogs

The **Snowdon** push

On the first weekend of July, Laboratory Technician Mandy Hipwell (NHLI) took part in the Snowdon Push—an event organised by the Back-Up Trust, a charity that builds confidence, motivation and independence in those who have incurred a life changing spinal cord injury. Mandy reports.

"If someone had ever asked me what the chances were that I would carry a 13-stone man in a wheelchair up Mount Snowdon, I would have told you it was as likely as that I would camp in a field in north Wales in the rain. Yet this July, my husband Michael, who was paralysed playing rugby nine years ago, and 12 of our hardiest friends and family pulled off both feats.

The Snowdon Push is an event where a team of 10 or more have to assist a participant with a spinal cord injury in reaching the summit of Snowdon. For many it is about overcoming personal challenges, no matter how long it takes.

Our team, dubbed 'If Carlsberg Made Snowdon Push Teams...', dragged, pushed and lifted Michael up 3,500 square feet of boulders, stiles and shale with little more than some ropes and a steel bar. Michael had an adapted wheelchair which enabled him to use his upper body to push himself along as much as possible.

Along the way we had two wheel punctures and the metal bar broke. A few others and I took a fair few tumbles in slippery conditions. If truth be told, for the last half hour of the ascent I would probably have wished myself anywhere but on Snowdon, but we managed the climb in six hours and eighteen minutes of slog in rainy and cold conditions. Michael had a huge smile on his face from start to finish despite the horrendous weather conditions. It was a hugely memorable moment for all of us when we finally reached the top.

We celebrated in style in the campsite with a hog roast and lashings of ale!"

To sponsor Mandy and to support the Back Up Trust visit **www.justgiving.com/michaelandmandyhipwell**

cross culture

My Singapore

by Valerie Flisher, Researchers in Residence Fellow (Outreach)

"I was born in Singapore and grew up on this small, cosmopolitan island in an area called Katong on the sea front and close to the commercial centre of the city. When I was growing up there were lots of colonial buildings while today there are hundreds of sky scrapers and the country has been regarded as the commercial, educational and technological hub of outh east Asia for many years. The people are warm, kind and courteous and tolerant of all religions. I'd never left Asia until I married my British husband in 1977. Through his job as diplomat, we travelled and worked in south east Asia and both eastern and western Europe but I now regard UK as my home."

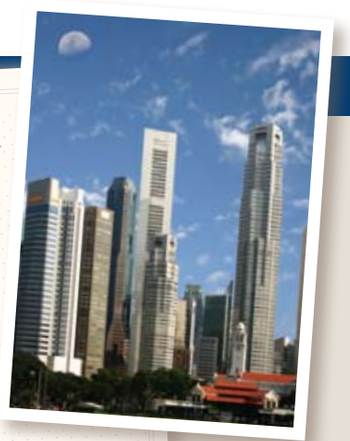
Valerie's 'must see' experiences in Singapore

Shangri-La Hotel • Surrounded by acres of tropical gardens, this hotel is one of the most luxurious in the city—if you take the lift to top floor there is an excellent revolving restaurant which has amazing panoramic views of the city—it's also particularly special to me as it was where my husband and I used to dine.

Sentosa Island, which means peace and tranquillity in Malay—is one of my favourite places to relax in Singapore. You can get a cable car from the mainland to the Island where you'll find nice beaches and golf courses.

Singapore zoo has recently been revamped and occupies 28 hectares. The nicest thing about it is that as the animals aren't in cages, roaming freely in landscaped areas—you feel as if you could reach out and touch them.

Food • While you can get versions of most of the Asian food in the UK there is a special something about eating the food in busy streets of Singapore, with the smell of the stalls and the hot weather which I really miss. You are really spoilt for choice—you'll always find a street stall selling Thai, Malaysian and Chinese food and the satays are unbeatable!



An orangutan holds on to a vine in the Singapore zoo

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**

Constructionarium project

In June, Imperial engineering students worked with Olympic Park contractors to plan and build scaled down versions of structures such as the Barcelona Tower. The project provides students with practical experience of delivering a project and contacts who could potentially employ them in the future.

Cleaner living from an unlikely source

Virginia Gardener, an alumnus of the Royal College of Art, worked with a team of five Imperial MBA students to develop her business idea, 'LooWatt', as part of the Innovation Entrepreneurship and Design (IED) programme (see page 2 for more about the course). She reports:

"40 per cent of the global population don't have plumbed toilets—a factor in 2.5 million deaths a year caused by waterborne illnesses. I came up with the design for LooWatt—a waterless toilet for the developing world, where poor infrastructure can create sanitation and health problems. What's more, the LooWatt cleanly packages human waste in biodegradable packaging suitable for transportation to an anaerobic digester where it becomes fuel for power generation. Working with a team of MBA students, we developed a business case to take this idea closer to reality and we're now considering how best to launch the LooWatt in urban Nigeria."

Physics for fiction

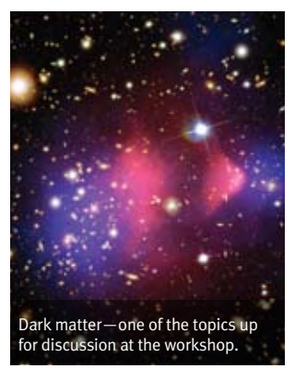
From cosmology to the daily life of a research astronomer, the one-and-a-half-day Physics for Fiction workshop, run by the Department of Physics, offered writers insights into recent developments in physics, principally in astronomy and space science. Dr Dave Clements (Physics), who organised the event (pictured left), reports.

"This was the first time an event like this has been organised in the UK and I wasn't quite sure what would happen. I aimed the event at science fiction writers and was very pleased to get 13 authors signed up, including several major UK science fiction writers, such as Stephen Baxter, Paul MacAuley, Ken MacLeod and Pat Cadigan. I was even more impressed to hear an interview with another of our attendees, Al Reynolds, on the *Today* programme on the morning of the event, after he'd received a million pound book deal.

> "How many Brown Dwarves are there in the galaxy?"

Despite the tropical heat, the audience was highly attentive and asked many searching questions, such as: "How many Brown Dwarves are there in the galaxy and how many of them will have planets?"

There were also plenty of opportunities for informal discussions during breaks and over a beer in Beit Quad in the evening. Thanks to all the speakers for making this a fascinating event and to the Science Fiction Foundation for providing the funds to make it happen."



Dark matter—one of the topics up for discussion at the workshop.

VOX POP

What did you get out of the Medex conference?

From 6–10 July, 20 school pupils came to Imperial to get a week-long taster of life as a medical student which included time spent with Lord Ara Darzi's department in SORA. *Reporter* met with three of the pupils to find out what they thought.

For more information
www.imperial.ac.uk/outreach

"There aren't any doctors in my family and I don't really know any, so I had doubts about studying medicine and what becoming a doctor would involve. The week was absolutely brilliant—it cleared up all of my doubts about medicine and taught me that I'm definitely capable of a career as a doctor and that it's the degree for me!"

MANSI SHAH, (PRESTON MANOR HIGH SCHOOL)

"I wanted to experience a medical undergraduate course and to see what life was like at a real medical school. I've taken away lots of skills relevant to the medical profession and the certainty that I want to become a doctor. The conference gave me a really good impression, not just about the profession, but also of what it would be like to actually study medicine."

THUSI GURUPARAN, (WILLIAM MORRIS SIXTH FORM)

"I wanted to see if I'd cope with being a medical student and find out if I'd enjoy it as much as I thought, despite people telling me it would be hard. I picked up lots of hands-on skills in the clinical labs and discovered that it's just as exciting a degree and career as I'd anticipated. I'm now confident I'd be able to cope in medical school. It's been like a gift!"

NEELY MOZAWALA, (BISHOPSHALT SCHOOL)

Shooting stars

Last month, 12 secondary school pupils from Riddlesdown High in Croydon attended an awards ceremony at Imperial to congratulate them for reaching the final of the annual International Space Settlement Design Competition. Dr Randall Perry, a senior research investigator in the Department of Earth Science and Engineering, who organised the competition, reports.

"The excitement of the 15–16-year-old pupils was contagious as they piled into the College to receive their first place trophy. As well as coming to collect their award, the students got the chance to spend the afternoon in labs and exchange ideas with Imperial space physicists and planetary scientists. They were extremely excited and just a little nervous about representing the UK at the end of July, but we hope that the interaction with Imperial scientists will stimulate their imaginations. By the end of the day they were all saying they wanted to come and study at the College!"

www.imperial.ac.uk/news/shootingstars

Tribute to Professor Dausset

Professor Danny Altmann (Investigative Science) wrote in *The Daily Telegraph* last month about the late Professor Jean Dausset, a Nobel prize-winning immunologist whose pioneering work helped to verify the compatibility of donor and recipient in organ and bone-marrow transplants. Danny worked for many years on the molecular biology of human leukocyte antigen (HLA) genes, and had interactions with the Centre d'Étude du Polymorphisme Humain, a major international resource of family DNA samples which Professor Dausset founded. Danny pays tribute to the Professor who died on 6 June this year:

"Jean Dausset was born on 19 October 1916 in Toulouse, France. Jean began his medical research in Paris, specialising in the properties of white blood cells. He moved to the UK in 1948 and made contact with British immunologists, notably Robin Coombs at the British Society of Immunology. Jean drew on Coombs' work to develop the idea that white blood cells could possess the quality of 'autoimmunity'. He and others started to work on the identification of the genetic system known as human leukocyte antigen which led him to win the Nobel prize for medicine in 1980.

The push to understand the HLA system was initially driven by the need to understand transplant rejection. However, it proved to have an impact far beyond this. It became clear that these were the key genes controlling immunity, their effects visible in susceptibility to 'autoimmune diseases' such as multiple sclerosis, rheumatoid arthritis and insulin-dependent diabetes, to infectious diseases such as HIV, and various cancers. During his lifetime Jean published over 600 papers on disease genetics and immunogenetics.

long service

Reporter shares the stories of staff who have given many years of service to the College. Staff featured celebrate anniversaries during the period of 20 August–1 September. Data is supplied by HR and is correct at the time of going to press.

—WENDY RAESIDE, COMMUNICATIONS

20 years

- Martin Kehoe, Optics Workshop Manager (Physics)
- Stephen Rothery, Research Technician (NHLI)

30 years

- Nicholas Collett, Sous Chef (Catering Services)
- Professor Andrew Amis, Professor of Orthopaedic Biomechanics (Mechanical Engineering)
- Andrew Rochester, Technician (Physics)
- Ian James, Technician (Aeronautics)
- Robert Kemp, Accounts Payable Manager (Finance)

SPOTLIGHT

Les Clark, Technician, Civil and Environmental Engineering 30 years

Les Clark followed a family tradition when he joined Imperial as a mechanical engineering apprentice in 1979, as his brother Dave had signed up as an apprentice two years earlier. After completing his apprenticeship, Les became a technician in metallurgy, moving into Civil Engineering in 1986, where he has remained. "It's a good place to work, so I have been happy to stay," he says. "There's a really good camaraderie among the technicians—everybody is here to help each other and get the job done." As a research technician in the Structural Laboratory in the Skempton Building on the South Kensington Campus, Les is responsible for testing structural elements, from concrete floors to unique PhD specimens. The laboratory is currently undergoing a refurbishment, involving a £2 million investment in new equipment and Les is looking forward to working with, and training others on, the new high tech equipment. Les can't quite believe he's been at Imperial for 30 years. "It just creeps up on you!" he says.

Imagining the Higgs Boson

Artist Mark Tovell has loaned the Central Library at the South Kensington Campus a piece of artwork depicting the mysterious Higgs Boson—the as yet unproven theory which , it is thought, explains how particles acquire the properties associated with mass. Alongside the artwork are five explanations of the Higgs Boson—taken from a competition launched in 1993. Imperial's Emeritus Professor of Theoretical Physics, Tom Kibble, submitted one of the winning entries. The artwork will be in the Library until the end of the year.

www.imperial.ac.uk/news/higgsboson

Welcome
new starters

Miss Jeanette Abela, Civil and Environmental Engineering
Ms Katherine Adams, Kennedy Institute
Mr Oliver Anderson, SORA
Dr Christopher Barnes, Molecular Biosciences
Mr Fabrizio Bonci, Neurosciences and Mental Health

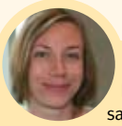
Dr Paul Cray has joined Imperial Consultants (ICON) as theme leader for natural sciences. With a PhD in physics, an MBA from Imperial and a background in software engineering, mobile telecoms and strategy consulting, Paul will be developing consulting activities with researchers. He says: "The potential for consulting in the natural sciences is enormous. It's very exciting to be back at Imperial helping unleash that potential."

Mr Cristian Bontoiu, Physics
Mr Ashley Brown, Student Union
Miss Helen Challis, Graduate Schools
Professor Manish Chhowalla, Materials
Mr Anil Chopra, Student Union
Dr Sergio Coda, Investigative Science
Dr Rosalind Cutts, Molecular Biosciences
Mr Jozef Dobos, Computing
Dr Marc Dumas, SORA
Mr Christoph Engl, NHLI
Dr Lorna Fiedler, NHLI
Dr Torsten Frosch, Chemical Engineering
Dr Clare Gallon, Clinical Sciences
Dr Lutz-Christian Gerhardt, Materials
Ms Magdalena Gierula, Investigative Science
Miss Herpreet Gill, Clinical Sciences
Mr Stephen Goode, Security Services
Mr Alejandro Granados, SORA
Professor Pierre Gressens, SORA
Dr Katerina Guschanski, Biology
Ms Grit Hartung, Computing
Mr Daniel Hill, Student Union
Dr Valeria Iodice, Neurosciences and Mental Health
Mr John James, Student Union
Mr Mindaugas Juozapavicius, Chemistry
Mr Peter Kelly, Clinical Sciences
Dr Kathryn Kornau, Chemistry
Dr Elisabeth Kugelberg, Investigative Science
Mr Yang Lee, Molecular Biosciences
Dr Aija Leiponen, Business School

Dr Chuanbo Li, EEE
Miss Ai Lim, SORA
Mr Bevan Lin, Investigative Science
Dr Yutie Liu, Chemical Engineering
Mr Leandro Lo Cascio, Kennedy Institute
Miss Gemma Loebenberg, Neurosciences and Mental Health
Mr Wayne Miller, Biology
Miss Salvinia Mletzko, Investigative Science
Mr Samuel Mugari, Kennedy Institute
Mr Jason Murray, Registry
Dr Clemens Olbricht, Mechanical Engineering
Dr Lulla Opatowski, EPHPC
Dr Tore Opsahl, Business School
Dr Anbalakan Paramasivam, NHLI
Mr Konstantinos Petridis, Physics
Miss Rosemary Rankin, SORA
Dr Patrick Rubin-Delanchy, Mathematics
Mr Ognjen Rudovic, Computing
Dr Tushar Salukhe, NHLI
Dr Samantha Scholtz, Clinical Sciences
Dr Serena Scollen, NHLI
Dr Shan Shen, Neurosciences and Mental Health
Mr Jonathan Silver, Student Union
Miss Sabrina Skeete, Materials
Dr Saranya Sridhar, NHLI
Dr Suren Sukiasyan, Physics
Dr Gheorghe Tigan, Mathematics
Miss Fanny Turlure, Cell & Molecular Biology
Miss Jennifer Wilson, Student Union
Dr Sabine Wolf, NHLI
Dr Steven Wolf, Centre for Environmental Policy
Mr Jianfeng Yu, Cell & Molecular Biology

Farewell
moving on

Ms Carolina Bachariou, Centre for Environmental Policy
Mr Simon Baker, Estates (26 years)
Dr Aline Banchet, Chemistry
Ms Linda Banks, SORA
Dr Nicole Benedek, Materials
Mr Alvaro Bertelsen, Clinical Sciences
Professor John Bessant, Business School
Mrs Sharon Blackwell, Estates Division (18 years)
Mrs Josephine Brackenbury, Educational Quality Office
Mr Callum Brandon, Biology (7 years)
Mr Jeff Brooks, Estates Division (30 years)
Mr Robert Callard, Security Services (13 years)
Dr Alvin Chua, Physics
Ms Alexandra Collins, Centre for Environmental Policy
Mrs Erika Collison, Library Services
Miss Barbara Cramond, SORA
Mr Justin Dane, Physics
Miss Katie de Wit, SORA
Mr James Dicken, Civil and Environmental Engineering
Dr Jos Dingjan, Physics
Miss Colette Doherty, Neurosciences and Mental Health
Mr Michael Dowley, Library Services (8 years)
Mr Marcus Dryland, Library Services
Mr Isaac Fung, EPHPC
Mr Dorian Gaertner, Computing
Mrs Maureen Garland, Library Services
Dr Kirstin Goldring, Neurosciences and Mental Health (9 years)
Mr Antonio Gonzalez Velazquez, Computing



Naomi Weston, Press Officer (Communications), is leaving Imperial to go and work in Australia. She says: "Over the last three years I've had the opportunity cover all kinds of stories from Henley Regatta and graduation to the Outreach photo exhibition and the incoming sabbs, and I've met some brilliant people. It always amazes me just how ambitious and enthusiastic our students are, and how much they do with their time at university. I've recently started doing some filming and have enjoyed the chance to bring my stories to life."

Mrs Melanie Green, Catering Services (11 years)
Dr Benjamin Haberman, Mechanical Engineering
Miss Camilla Halewood, Mechanical Engineering
Mr Paul Harvey, Estates (15 years)
Mrs Jane Hayling, Library Services (26 years)
Dr Anna Helander, Medicine
Miss Suzanne Hodgson, SORA
Mr Graham Hunt, Estates (39 years)
Mr Farhad Iranpour Boroujeni, SORA
Dr Peter Jamieson, Computing
Ms Lindy Jamieson, Catering Services (5 years)
Mr Mark Jay, Investigative Science
Ms Sue Johnson, Chemistry (39 years)
Dr Helen Jones, Neurosciences and Mental Health
Dr Geoffrey Kabuye, Medicine
Ms Darling Kankam-Adu, Catering Services
Dr Sergei Kharitonov, NHLI (15 years)
Miss Annapoorna Kuppuswamy, Neurosciences and Mental Health (5 years)
Mr Sameer Lakhani, Business School
Dr Antonio Lazzarino, EPHPC
Mr Jonathan Lee, NHLI
Dr Yan Li, Clinical Sciences (5 years)
Mr Matthew Lilley, Physics
Miss Claire Macdonald, Neurosciences and Mental Health
Mr Robert McNally, Estates (7 years)
Mrs Evelyn Mensah-Amoa, Catering Services
Miss Hannah Moncrieff, Natural Sciences
Mr Terence Morris, Catering Services (9 years)
Mr Scott Mullaney, Medicine
Mr Lincoln Myambo, Catering Services
Dr Jeffrey Ng Sing Kwong, Bioengineering (6 years)
Mr Sean O'Neill, Computing (7 years)
Miss Rizwana Patel, Finance
Miss Milena Peric, Civil and Environmental Engineering
Miss Sian Phelps, Library Services (21 years)
Dr Massimo Pizzato, Medicine
Miss Ludmila Pribisova, Molecular Biosciences
Mrs Barbara Pybus, Accommodation Services
Dr Anna Radomska, Biomedical Engineering
Dr Edwin Raj, Materials
Dr Judith Roether, Materials
Dr Matthew Rogers, Investigative Science
Ms Carly Rogerson, Educational Quality Office
Mr Jon Rundle, Neurosciences and Mental Health
Mr Dimitri Sarbanovic, Sport and Leisure Services (12 years)
Mrs Behnaz Schofield, NHLI
Dr Dongmin Shao, SORA
Professor Desmond Sheridan, NHLI
Dr Jasmin Sidhu, SORA
Mr Angelos Skodras, Mathematics
Mr James Sudlow, Chemistry
Mr Jon Thristan, ICT
Dr Veronica Tisato, Medicine
Dr Geertje van der Heijden, Biology
Ms Valeria Ventura, Molecular Biosciences
Dr Nikolaos Vlasopoulos, Civil and Environmental Engineering
Dr Siouxsie Wiles, Investigative Science (8 years)
Miss Rachael Williamson, Bioengineering
Mr Matthew Wingham, Physics
Dr Brit Wolters, Kennedy Institute
Miss Natalie Woodman, Neurosciences and Mental Health
Mrs Gillian Wright, Library Services
Ms Delilah Zabaneh, EPHPC
Miss Qian Zhang, Investigative Science

retirements

Professor Thomas Barnes, Neurosciences and Mental Health (24 years)
Mrs Marilyn Wood, EEE (19 years)

This data is supplied by HR and covers the period 21 June–11 July. 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.

moving in. moving on.

Silfest 09

Silfest organisers Catherine Walker (Centre for Environmental Policy), Mark Lee and Charlie Marsh (Biology) report on Silfest—the annual independent music festival held at Silwood Park which took place this year between 27–28 June.

"With a rocking line-up of bands, acoustic performers and DJs, not even the rainstorm could dampen the spirits of the 300 revellers at Silfest 2009. Set in the beautiful grounds of the iconic manor house on the Silwood Park Campus, a building designed specifically for partying, bands banged out tunes all day. There was some pretty crazy dancing going on as the rain clouds blew away and the sun shone once more. Barbecues, bouncy castles and sumo wrestlers added to the day and, then, as the sun set behind the trees, the bonfire was lit and the DJs warmed up their decks for a party which went on long into the night. With all proceeds going to the Rainforest Alliance, it is fair to say that those who woke up with a sore head the next day did so for a good cause."

events highlights

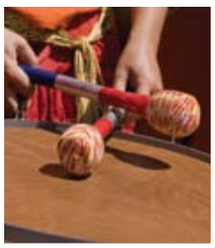
FOR COMPLETE DETAILS:
www.imperial.ac.uk/events

23 July 2009

24 JULY ▸ SEMINAR

Global health: the touch points and future perspectives

An informal gathering to discuss pertinent healthcare issues such as global responses to malaria, AIDS, tuberculosis and the role of investment in health. Discussions on the day will focus on: tackling access and inequality, the response to pan/epidemics, and the role that pharmaceuticals and healthcare research plays in the advancement of healthcare. Speakers include Professor Paul Dolan (Business School) and Professor Alan Fenwick (Epidemiology, Public Health and Primary Care) and Dr David L. Heymann, Assistant Director-General for Health Security and Environment at the WHO.



21 SEPTEMBER ▸ LECTURE

Launch of the International Centre for Research in Arts Therapies

Brief research presentations will be made by art, dance, drama and music therapists. Highlights of the day include Dr Mike Crawford, (Neurosciences and Mental Health) discussing long term conditions and the role of arts therapies, Richard Hougham, Head of Drama Therapy at Central School of Speech and Drama on links between dramatherapy and anthropology, and Val Huet, Chief Executive of the British Association of Art Therapists speaking about the Art Therapy Practice Research Network.

22 JULY ▸ INAUGURAL LECTURE

Of the earth and the heavens: towards seamless positioning

Professor Washington Ochieng, Chair in Positioning and Navigation Systems

24 JULY ▸ SEMINAR

Global health: the touch points and future perspectives

An informal gathering to discuss pertinent healthcare issues

UNTIL 25 JULY ▸ EXHIBITION

'Build'

A selection of works by architects, painters and sculptors

21 SEPTEMBER ▸ LECTURE

Launch of the International Centre for Research in Arts Therapies

A series of research presentations by art, dance, drama and music therapists.

23–25 SEPTEMBER ▸ CONFERENCE

Thermodynamics 2009

A conference to discuss experimental investigations, statistical mechanics, equation of state modeling and molecular simulation

LOCAL EVENTS ▸ SOUTH KENSINGTON

29 JULY ▸ SCIENCE MUSEUM

A journey into space at the Science Museum

An opportunity to explore the space gallery at night and listen to space related talks—one of the Museum's 'Late' events.
www.sciencemuseum.org.uk

UNTIL 18 OCTOBER ▸ V&A

Telling Tales exhibition

A show exploring the recent trend among European designers for unique or limited edition pieces that push the boundaries between art and design.
www.vam.ac.uk/microsites/telling-tales

PHOTO EXPO

Imperial rowing teams achieved a double win at the Henley Regatta on 1 July. Imperial's Prince Albert Challenge Cup team (above) beat Reading, and our Temple Challenge Cup team (below) won against Exeter.

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

take note

Junior Research Fellowships Scheme

Applications are invited to the second round of the College's Junior Research Fellowships scheme, which offers opportunities for early-career researchers to establish their own scientific path, free from teaching and administration duties, with places to be taken up in autumn 2010. Adverts have been placed in *Nature, New Scientist* and *jobs.ac.uk* seeking applications from outstanding scientists by the deadline of 30 October. Please help raise awareness of these opportunities, which are open to applicants from the UK or abroad.

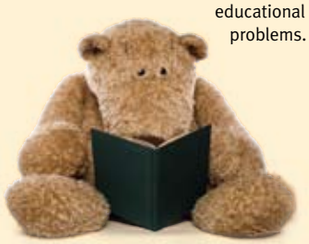
For further details, visit: **www.imperial.ac.uk/juniorresearchfellowships**

VOLUNTEERING

Children's reading teacher

Project ID:	2230
Organisation:	Real Action
Date(s):	3–21 August
Time:	8.00–12.00 or 12.30–15.00
Location:	W10 (Queen's Park tube)

Volunteers are needed to teach children how to read. The Literacy Action Programme is a summer project which will run for three weeks throughout August for two and a half hours per day. Volunteers will be trained how to teach reading skills, all that is needed is a commitment and a desire to help. Real Action is a community-led educational charity providing effective solutions to some of the most challenging educational problems.



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**

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