Imperial College London

reporter

Issue 248 ▸ 19 June 2012

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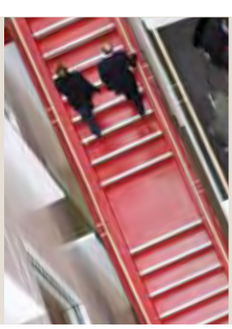

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How I plan to cycle across the UK with a skeleton in tow

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EDITOR'S CORNER

Countdown begins!

With less than 40 days to the Olympics, along with the rest of London, Imperial is stepping up its preparations for the biggest games in the world. Commercial Services are entering one of their busiest periods – hosting two Olympic teams and providing facilities for another seven. To cater for the athletes, Sport Imperial has invested in new fencing pistes, and new lane ropes for the *Ethos* swimming pool to prevent waves. They've also stocked up on pool chemicals, **bottled water and energy drinks**, in case there are any delivery problems during the Olympics. In addition, the Department of Humanities has been teaching Commercial Services staff basic Japanese, as well as translating a welcome booklet for team members to receive when they arrive. To bring the Olympics even closer to home, last week we received the amazing news that Imperial medic **Melanie Wilson has been picked** for the Olympic rowing team (interviewed in issue 243). We'll be keeping our eyes glued to the news to see how she does!

EMILY ROSS-JOANNOU, EDITOR

Reporter *is published during term time in print and online. The next publication day is 20 July.*
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Imperial opens second diabetes centre in UAE

On 28 May, His Highness Sheikh Tahnoon bin Mohammed Al Nahyan, the Ruler's Representative in the Eastern Region, United Arab Emirates, pictured right, officially opened the second Imperial College London Diabetes Centre (ICLDC). ICLDC is a state-of-the-art facility that will provide world class standards of care to patients in the city of Al Ain and the surrounding region.

The launch of the new facility follows the establishment of the first Imperial College London Diabetes Centre in Abu Dhabi in 2006 and is an extension of the partnership between Mubadala Healthcare and Imperial.

The centre is founded on the four pillars of treatment, training, public health and research, and provides the highest level of specialised and comprehensive patient care from the first diagnosis to the management of all the complications associated with diabetes.

Dr Maha Barakat, ICLDC's Medical and Research Director (Medicine), explained that with the opening of the Al Ain facility, ICLDC now receives more than 10,000 patient visits each month across the two centres:

"The opening of the second centre in Al Ain ensures many more people in the UAE have access to the world class treatment for which Imperial College London Diabetes Centre has become known."

—ADAPTED FROM A NEWS RELEASE ISSUED BY IMPERIAL COLLEGE LONDON DIABETES CENTRE

For the full story see: **http://bit.ly/diabetescentre2**

Swapping optics for oars

On 3 June, Professor Chris Phillips (Physics) enjoyed a front-row seat at the Queen's Diamond Jubilee river pageant, rowing in a boat near the front of the aquatic procession.

Chris and the rest of the crew of the Vineyard Voyagers, made up of dads from his children's school, were powering a modern facsimile of a nineteenth-century Thames waterman's cutter – the 'white van' of the Victorian Thames, according to Chris. Their prime position saw them helping to set the pace for the whole flotilla in the front row of cutters, behind the pageant's flagship, the *Gloriana*, and ahead of over 1,000 boats.

In total, the crew covered over 22 miles in the cutter over six hours, including the trip to get into position for the start of the flotilla. The highlight, however, came on reaching Central London. Chris said: "Hearing all of the cheers from the banks of the Thames was fantastic. When we're racing we always get a lift from the crowd and this was a similar experience, except massively magnified."

> "When we're racing we always get a lift from the crowd and this was a similar experience, except massively magnified"

Chris and the rest of his crew were invited to take part thanks to their association with the Worshipful Company of Watermen and Lightermen. The Company was established in 1555 to police transport on the Thames and now also supports activities for river rowing enthusiasts, including the river races in which Chris takes part.

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

George Osborne opens £73 million powerhouse of biomedical research

A major new research facility on Imperial's Hammersmith Campus, designed to expand and accelerate the translation of scientific discoveries into new ways of preventing, diagnosing and treating diseases, was officially opened by George Osborne MP, Chancellor of the Exchequer, on 28 May.

The Minister of State for Universities and Science David Willetts joined the Chancellor on a tour of the six-storey £73 million Imperial Centre for Translational and Experimental Medicine (ICTEM), which combines laboratory space for up to 450 scientists with a dedicated facility for evaluating and developing new medical treatments through clinical trials.

The Centre was built over four years with support from the British Heart Foundation, Imperial College Healthcare NHS Trust, the Medical Research Council and the Wellcome Trust, and marks the fruition of the College's largest-ever investment in research facilities.

Translational medicine research at Imperial is underpinned by significant funding awards from the National Institute for Health Research (NIHR). April 2012 marked the beginning of a new award to the NIHR Imperial Biomedical Research Centre (£112 million).

Speaking at the opening ceremony, the Chancellor said: "It's an honour to open this new Imperial Centre for Translational and Experimental Medicine. It is what this country's vision for the future of life sciences is all about. This new centre rises to the challenge of ensuring we remain a world leader in life sciences. The future is academic research, clinical practice and industrial application coming together."

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

See centre pages to find out more about ICTEM and how it is benefiting staff

Ground broken on campus for Singapore's new medical school

The Lee Kong Chian School of Medicine, the joint medical school being developed by Imperial and Nanyang Technological University (NTU) in Singapore, held its ground-breaking ceremony on 28 May.

The ceremony, presided over by the Singaporean Ministers of Health and Education, celebrated the start of work on the School's new Novena Campus at Mandalay Road. The site, next to Tan Tock Seng Hospital, will include the School's headquarters, which will be based in a restored 1920s building that was previously used as a hostel by medical students. Equipped with administrative and teaching facilities, the School's headquarters will be ready by June 2013, in time for the first intake of 50 students in August 2013. The campus's Clinical Sciences Building is expected to be ready in 2015.

Plans for a new building on the School's other site at NTU's Yunnan Garden Campus were also unveiled. The Experimental Medicine Building, due for completion in 2015, will be located within NTU's biomedical engineering cluster.

Together, the School's buildings will house seminar rooms, learning studios, clinical skills training facilities, innovatively designed laboratories, and other teaching and recreational facilities. The buildings are designed to promote collaboration between students, faculty and clinicians through the use of multidisciplinary and interactive spaces and facilities.

Imperial's President & Rector, Sir Keith O'Nions, said: "Our aim is to develop world class doctors. They will have world class facilities at the new campus. In the inspiring, cutting edge learning environment, students will fulfil their potential and go on to make a real, lasting contribution to the healthcare of Singapore."

—CAROLINE DAVIS, COMMUNICATIONS AND DEVELOPMENT

Read vox pops from the event: **http://bit.ly/singaporevoxpops**

in brief

New Chief Operations Officer

Simon Harding-Roots has been appointed as the College's Chief Operations Officer with effect from 1 July. Mr Harding-Roots will be responsible for providing and enhancing operational services in support of Imperial's academic mission. He will join the College from Treasury Holdings Group, where he has worked since 2007. Speaking about his appointment, Mr Harding-Roots said: "I look forward to supporting the College in delivering outstanding facilities and capital development projects in the coming years."

Appointing committees for leadership posts

The Council has established an Appointing Committee, chaired by Baroness Manningham-Buller, to identify individuals to lead the College as President & Rector and Provost under the new arrangements announced in April. Advertisements for the position of President & Rector appeared in the press at the end of May. Sir Keith O'Nions, the present President & Rector, will retire at the end of 2013. **http://bit.ly/provostinfo**

Carbon saving project

A project in the Chemical Engineering and Aeronautics buildings on the South Kensington Campus, which will save the College around 400 tonnes of carbon per year, reaches its halfway point this month. Facilities and Property Management, together with Capital Projects and Planning, started replacing the existing windows with new double glazed windows and overcladding the existing facade with an energy-efficient aluminium panel system in February. The project has the potential to save the College around £50,000 in energy costs each year.

Centre for the History of Science, Technology and Medicine

In April, Imperial's Management Board resolved to work with staff in the Centre for the History of Science, Technology and Medicine to establish what alternative future environment might best support its research activities. Professor David Edgerton succeeds Dr Andrew Mendelsohn as the Centre's Head, with responsibility for leading it through the transition.

Martian science gets a boost

Investigating the history of Martian rocks and soil, and looking for signs of past or present life in rocks from the red planet, are two areas of research at Imperial that have received funding this month from the UK Space Agency.

Professors Sanjeev Gupta and Mark Sephton (both Earth Science and Engineering) have received combined funding of more than £400,000 to help them carry out vital research for future missions to Mars.

Professor Gupta is a participating scientist in NASA's Mars Science Laboratory mission, which is due to land on the red planet on 6 August 2012. The mission aims to collect vital data about ancient environments on Mars and their viability for harbouring life, together with information about Mars's past climates.

Professor Sephton has received funding to carry out preliminary research for the European Space Agency's ExoMars Mission, which is due to touch down on Mars in 2018. He and his colleagues will carry out a mock mission in a lab at Imperial, mimicking the conditions on the Martian surface to test the Life Marker Chip, which will be used to detect signs of past or present life in rocks on Mars.

Professor Jan Cilliers, Head of the Department, said: "Imperial has been at the frontier of space research for many decades, with leading research on meteorites, asteroids and comet dust. It is great to see Mark and Sanjeev involved in these two significant missions to Mars, which will teach us more about its climate and its potential for harbouring life."

> "It is great to see Mark and Sanjeev involved in these two significant missions to Mars"

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT

'Biological' industrial revolution kick-started

Developing the tools that will enable 'biological' devices to be produced on an industrial scale will be the focus of a £5 million consortium, it was announced this month. Working at an industrial scale will help unlock the commercial potential of these minute devices, which can be used for a range of applications including the production of chemicals, materials, biosensors and biofuels. The five-year project is funded by the Engineering and Physical Sciences Research Council (EPSRC).

Professor Richard Kitney (Bioengineering), pictured above right, who is co-leading the consortium, said: "This project will create a new kind of industrial revolution in the UK, taking synthetic biology from the lab bench to the factory floor, where industries of the future can create microscopic devices in a safe and controlled way to create new sources of energy or new kinds of medical devices."

Professor Paul Freemont (Life Sciences), the consortium's other co-leader (pictured above left), added: "Mass producing these biological devices and systems could create a range of new industries for the UK. Start-ups on the drawing board already include a company that will produce microscopic biosensors in hospitals for detecting MRSA and urinary infections. In the long term, we hope to create biofactories that use engineered biological systems to turn landfill into carbon-negative energy sources. We believe this project could unleash the potential of synthetic biology and turn it into a real success story for UK plc."

The vision for the project is to create a factory assembly line process, where an engineer can select from a vast virtual catalogue of bioparts to design devices and assemble these devices using robots.

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT

Investing in computing solutions for cities

On 24 May, the computer technology company Intel announced the launch of the Intel Collaborative Research Institute for Sustainable Connected Cities in partnership with Imperial and UCL.

The launch of the centre was unveiled at an event in 10 Downing Street, bringing together key decision-makers and influencers from academia, industry and government.

The Institute aims to address the social, economic, and environmental challenges of city life with computing technology, helping to provide practical solutions to problems ranging from droughts and long commute times to wasteful use of energy. Using London as a test bed, researchers will explore technologies to make cities more aware by harnessing real-time user and city infrastructure data.

The Institute will be a core member of the newly formed UK R&D network, which was simultaneously launched by Intel Labs Europe. The network will consist of nine R&D locations, including London, Brighton, Swindon and Aylesbury, with further locations to be added by the end of 2012.

> "The Institute could enable us to make all kinds of intelligent systems a reality in cities"

"The Institute could enable us to make all kinds of intelligent systems a reality in cities," said Edward Astle, Pro Rector (Enterprise). "One example of how our research could work in practice is where there is a major leak from a water supply, flooding the roads. We could introduce a network of sensors that would detect the leak, divert the flow of water to prevent damage and wirelessly transmit information to transport authorities, so that traffic could be diverted, preventing congestion and general city-wide disruption."

—COLIN SMITH, COMMUNICATIONS AND DEVELOPMENT

media mentions

—TANYA GUBBAY, COMMUNICATIONS AND DEVELOPMENT

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A sticky solution

DAILY MAIL ▸ 15.5.2012

A wireless digital 'plaster' that can monitor vital signs continuously and remotely is being trialled with patients and healthy volunteers, reports the *Daily Mail*. The plaster, which is based on Imperial technology, is a disposable device that is stuck to a patient's chest with an adhesive strip. "When patients are admitted to hospital for elective surgery or non-urgent conditions, their vital signs are only monitored every four hours, unless they have been identified as being at high risk of deterioration. In some cases, there can be deterioration in their condition in between readings, but this device allows continuous monitoring, so warning signs can be picked up much more quickly," Professor Chris Toumazou, Chief Scientist of the Institute of Biomedical Engineering, told the newspaper.

Growing together

THE NEW YORK TIMES ▸ 15.5.2012

Species of bacteria that grow together in the laboratory evolve better ways to make use of each other's waste products than bacteria that grow in isolation, according to *The New York Times*. Scientists from Imperial found that the bacteria grow into something of an evolutionary niche, developing specialist abilities in a shorter time period than expected. PhD student Diane Lawrence (Life Sciences and Grantham Institute) said: "Knowing more about how such evolution occurs could be important in understanding the natural microbial communities in the human gut and the artificial groups of microbes used in wastewater treatment."

'Virtually' under the knife

BBC NEWS ONLINE ▸ 24.5.2012

A virtual body created using a mix of graphics and real CT scans of the body has been purchased by Imperial, reported *BBC News Online*. Students and surgeons can interact with it either via touch or with a traditional mouse. The body can be stripped back to expose internal organs, areas can be enlarged for more detailed study and the software can work with real patient data. "We had a patient with kidney cancer and we took the software to theatre. Previously the urologist would have just had the standard pre-operative 2D image but this showed them the whole kidney," Aimee Di Marco (Surgery and Cancer) told the BBC.

The benefit of experience

CITY A.M. ▸ 24.5.2012

Over the last few years, many business schools have expanded their range of Master's courses and have made a real push to recruit more students, according to *City A.M.* However, MBAs and MScs each offer distinctive benefits and, when choosing your programme, it's important to weigh these against your expected career direction and previous business experience. Professor Dorothy Griffiths (Business School) said: "An MSc teaches you something about the world you're going into. An MBA, in contrast, requires you to reflect and build on your experience."

awards and honours

MEDICINE

2012 AstraZeneca Prize

Professor Jane Mitchell, Head of Cardiothoracic Pharmacology (NHLI) has been awarded the 2012 AstraZeneca Prize for Women in Pharmacology for her work on inflammation in cardiovascular and respiratory systems. The prize recognises women whose career achievements have contributed significantly to the understanding of a particular field through excellence in research. Professor Mitchell will be awarded the £1,000 prize at a ceremony in December.

MEDICINE

FEAST trial wins BMJ Research Paper of the Year award

The FEAST trial, led by Professor Kath Maitland (Medicine) has won the prestigious British Medical Journal Research Paper of the Year award. The trial investigated whether fluid resuscitation helps improve the survival of children with shock caused by infectious diseases. The judges unanimously chose the FEAST trial for the award.

NATURAL SCIENCES

IET Challenge winners

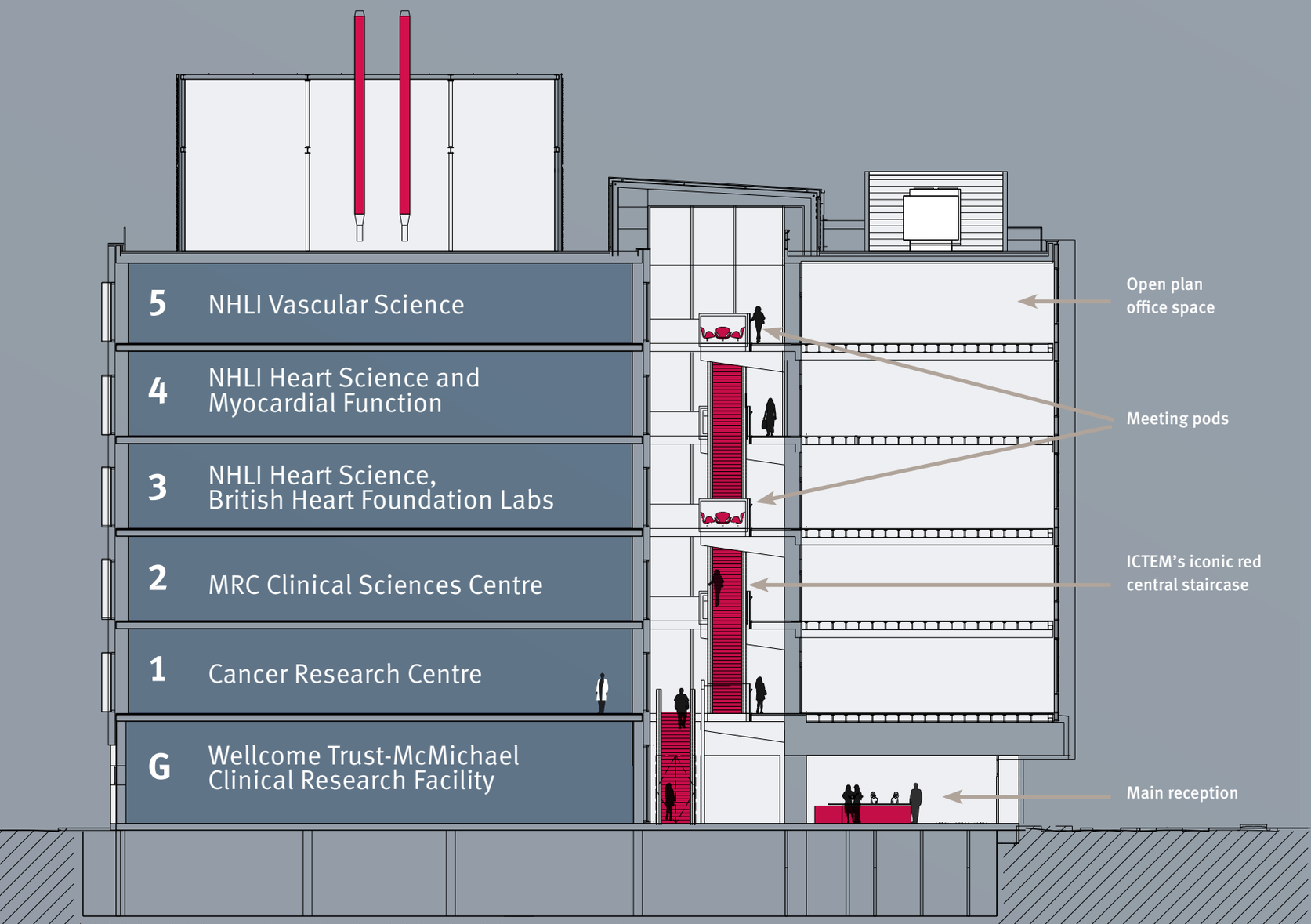
The annual Institution of Engineering and Technology (IET) Challenge has been won by a group of Imperial physicists, pictured above (L–R): Dr Peter Spencer, PhD student Joe Goodwin, Dr Sophia Khan and Dr Dan Crick, who met at the Postdoc Development Centre's course *Building on the past four years – what next?* in May. The theme of this year's Challenge was the commercialisation of space. After a five-way tie for first place, a final problem on astronomy led to Imperial's team winning the tie break. They received a trophy, which will be displayed for the next year in the Kelvin Lounge at the IET, at Savoy Place in London.

MEDICINE

Powell named 'pioneer'

Professor Janet Powell, professor of Vascular Biology and Medicine (Surgery and Cancer) has been named 2012 European Pioneer in Performance for her dedication to creating consensus within the medical community. The award was presented during the 34th Charing Cross International Symposium held at the College in April. Professor Powell was chosen for demonstrating a strong and ongoing commitment to improving both clinical and patient outcomes through active collaboration.

Biomedical powerhouse



Inside ICTEM: level by level

G This facility provides a space for **Primary Investigators** across the College to run **early translational medicine trials.**

1 This floor brings together chemists, biologists and engineers who are working on **new ways of tackling cancer**, such as molecular imaging techniques that help doctors match treatments to patients and methods to reduce the toxicity of radiotherapy.

2 This floor houses **next-generation gene sequencing machines**, which are helping researchers to develop improved methods for preventing, diagnosing and treating common health problems such as heart disease and raised cholesterol.

3–5 A major theme for heart scientists on these floors is **regenerative medicine** using stem cells to make **new heart muscle** to replace the muscles cell that are damaged in a heart attack and don't grow back.

"Swiftly bringing new benefits to patients in west London, patients in the UK and patients across the world is the driver for the research that is underway here," said President & Rector Sir Keith O'Nions, speaking about the vision for the Imperial Centre for Translational and Experimental Medicine (ICTEM) at the formal opening event on 28 May.

Four years after construction began, *Reporter* explores how ICTEM is acting as a powerhouse for biomedical expertise and facilitating the transition of research findings from lab bench to bedside.

ICTEM has brought together hundreds of researchers who are investigating the causes and potential treatments of a range of diseases. Floors three to five of ICTEM are the new base for researchers in cardiovascular science, who have historically been spread across locations on the South Kensington, Royal Brompton and St Mary's Campuses. "Considering this dispersion, which affects everything from the training environment through to the critical mass for core facilities and to our knowledge of one another's work, it's a tribute to everybody's talent and hard effort over the years, that we've done as well as we have!" says Professor Michael Schneider, Chair in Cardiology (NHLI). Over the last four years, cardiovascular researchers at Imperial have attracted substantial funding from organisations including the British Heart Foundation and the National Institute for Health Research Biomedical Research Centre.

Although groups from different campuses collaborated on projects before the move, Sian Harding, Professor of Cardiac Pharmacology, explains that sometimes it was technically difficult. "We spent a lot of time walking up and down Exhibition Road to the Royal Brompton carrying live cell tissue cultures!" She recalls. "Bringing the NHLI's cardiovascular biology and pre-clinical aspects of translation onto a single site is fantastic and will benefit all aspects of our work and our mission," adds Michael.

Teamwork

From bold red staircases to an atrium that radiates light across the floors, the whole building has been designed to encourage collaboration with its sense of space and openness. Floors one to five are divided in half with the atrium at their centre. Spacious open plan labs, with exposed brick and a yellow and lime green design, linked by a bridge to an office space on the other side of the building. Big glass windows mean the spaces are visually connected as well as physically close to each other. ICTEM also has link bridges to the Commonwealth Building, the Medical Research Centre (MRC) administration building, the Burlington Danes Building and the main hospital site, making researchers and clinical staff more accessible to each other.

"It is a bright airy building filled with carefully planned spaces for work and reflection," explains Eugene Sayers, of architects Sheppard Robson, who has been working on the project since 2007. "Interaction between researchers was identified as a key factor in fostering innovation, so the bright staircases connecting the floors and the informal meeting pods are intended to encourage this," he adds. "I've already seen meetings between postdoctoral researchers and PhD students from different groups, who would never have been in contact before," reveals Sian.

Accessibility

ICTEM enables researchers working on similar research areas to share equipment which was previously spread between campuses or floors. One example of a facility designed to benefit the whole building is the Genomics Lab on level two, which has been funded by the MRC Clinical Sciences Centre. "The idea behind it is that it provides a centralised core facility for Imperial staff and the MRC to use for their genomic sequencing projects. They can either come and get trained to perform the experiments themselves or present their projects to the genomics staff to complete," explains Laboratory Manager, Rajdeep Mehon.

> "interaction between researchers was identified as a key factor in fostering innovation"

The lab includes state-of-the-art facilities for high-throughput genomic research, enabling researchers to sequence the DNA structure that defines the biological construction and function of every cell. The lab's equipment is also used for clinical purposes, allowing multiple patients to be screened simultaneously for very rare mutations that can be difficult to detect, and predispose conditions such as heart disease, diabetes or cancer.

Testbed

ICTEM aims to bring benefits to patients of the adjacent Hammersmith Hospital and populations further afield. The integration of a spacious clinical trials facility alongside research and lab space in the building means the process from discovery to application can be completed under the same roof.

Previously, clinical trials on the Hammersmith Campus were split between two cramped wards in the hospital. The new Wellcome Trust-McMichael Clinical Research Facility (CRF) on the ground floor of ICTEM is much more accessible for researchers, encouraging them to evaluate possible treatments soon after they have been developed. Recent trials there have looked at treatments for arthritis, obesity and heart disease.

Since around 240 members of the public visit the CRF every month to participate in trials, the look and feel of the CRF has been specifically designed to cater for this purpose. The CRF has its own entrance and reception area and provides comfortable clinical accommodation for volunteers and patients, as well as a kitchen catering for special diets to help researchers doing nutritional trials. Some study participants require long-term, in-house monitoring, made

What makes up the ICTEM labs?

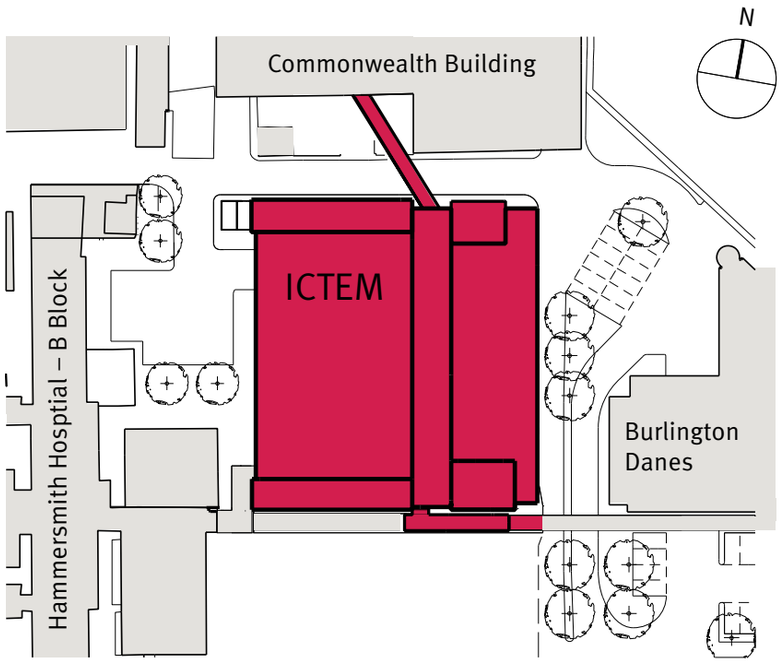
5	open plan lab areas
5	open plan write-up areas
5	cold rooms
5	wash-up rooms
17	water purification systems
19	tissue culture rooms
19	fume cupboards
50	microbiological safety cabinets
55	offices
71	lab rooms
100	fire extinguishers
223	filing cabinets
240	lab waste bins
469	lab stools
502	desks and chairs

Continued on page 8

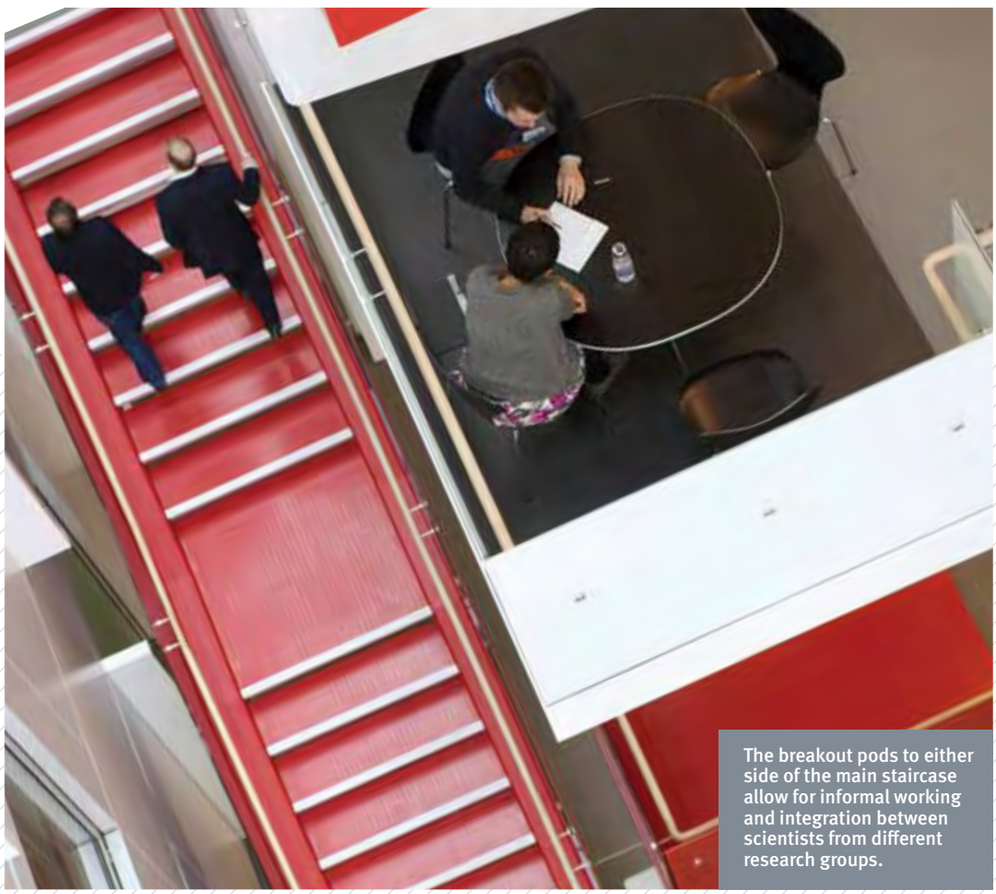
possible by equipment within the CRF, and all have access to the lounge, which is equipped with a widescreen TV, Xbox, PlayStations and other home comforts. "We attempted to create a range of spaces which would be reassuring while providing for issues such as security, privacy and technical compliance," explains Eugene.

Dr Claire Shovlin is a Senior Lecturer in Cardiovascular Sciences based on the fifth floor of ICTEM, where she is researching a genetic disorder called hereditary haemorrhagic telangiectasia that leads to abnormal blood vessel formation and bleeding. Claire's group has recently found that for these patients blood clots were more likely if they had low blood iron levels as a result of their blood loss. A clinical trial of iron supplements in healthy volunteers was needed to advance the group's understanding and Claire says the facilities in the CRF enabled the study to be carried out swiftly and smoothly.

The trial, which had 18 participants, involved taking urine and blood samples from up to five people four times a day for three days. "Had the trials unit not been downstairs from the lab, the mechanics of getting the right samples to the right place would have been impossible without also employing a 'runner'" she explains. As it was, the research team of four managed to complete the full study sampling in one month. The study enabled the group to evaluate new biomarkers in the blood; for example, quantifying the number of circulating cells sought to repair blood vessels. The team has also gained insight into how iron treatments change messages carried in the blood that alter the way cells behave. In the next stage of the research, the group is exploring why the observed changes occur, and what improvements could be made to the iron treatments needed by millions of people each year.



▲ An architectural plan showing the location of ICTEM within the Hammersmith Campus, and the walkways that connect ICTEM with the Commonwealth Building and Burlington Danes.



The breakout pods to either side of the main staircase allow for informal working and integration between scientists from different research groups.

Tales from every floor of ICTEM reveal that researchers are excited about the prospects for future collaboration, and that there are already signs that the building's aims to integrate patient-centred research with translational science are being met. As Sir Keith remarked: "Historically in the UK, the move from making a discovery in the lab to bringing a new treatment into the clinic hasn't happened as quickly or as easily as we might have hoped. Now, working side by side with hospital staff and patients, our researchers are changing this."

—EMILY ROSS-JOANNOU, COMMUNICATIONS AND DEVELOPMENT

inside* story

mini profile

Katy Wilson

Reporter **met Katy Wilson, Editorial Assistant (Centre for Environmental Policy (CEP)), who is helping to research and write a new book, *One Billion Hungry: Can we Feed the World?* with Sir Gordon Conway, Professor of International Development (CEP).**

Can you tell me what the book is about?

This book is an optimist's perspective on routes to tackling chronic hunger. Almost one billion people in the world are hungry and this book lays out options and solutions to finally end world hunger. It is a comprehensive overview of Gordon Conway's theory of change that he first documented in *The Doubly Green Revolution: Food for all in the 21st century*.

> "We require a revolution in agriculture that increases food production"

Why is it important?

While technologies have progressed and political climates may have changed, Gordon's theory still stands. We require a revolution in agriculture that increases food production – such as the first 'green revolution' did between the 1940s and 1970s – but that does so in an equitable and environmentally sustainable manner. It must be more effective at reducing hunger and poverty, and be resilient to the global challenges the world faces, such as volatile food prices, increasing populations and climate change.

Who do you want to read it?

We hope that this book will appeal to everyone, particularly those who are frustrated by the lack of results in ending hunger and by people who have an interest in making agriculture more productive, fair and environmentally responsible. The book makes clear recommendations for decision- and policy-makers on what they can do to achieve global food security, where everyone in the world has enough nutritious food to be productive, healthy individuals. Most of all, this book is designed to educate and to inspire people to take to heart the goal of feeding the world through an understanding of both the challenges and the solutions.

–SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

For the full interview visit: **www.imperial.ac.uk/reporter**

When A.C. Grayling came to Imperial

What should undergraduates learn and who should pay for it? Lecturer Dr Mike Tennant (Centre for Environmental Policy) went along to hear what Professor A.C. Grayling, Master of the New College of the Humanities (NCH) and recently Professor of Philosophy at Birkbeck, University of London had to say on the subject at his impassioned talk at Imperial on 24 May.

"Grayling [pictured right] is a believer in the idea of a liberal education for the greater social good. His college aims to provide a broad but deep curriculum in the humanities that trains students to appreciate the richness of the world, acting to contextualise much of the UK's current and narrow disciplinary teaching. Although based in the humanities, it certainly doesn't seem an easy option: the 12-module undergrad degree is bolstered by seven complementary modules and a professional skills stream. Imagine doing two or three times as much work as you're doing now, undergrads...

The liberal arts model has been lifted from the States, as has the price tag. It'll cost you £18,000 per year to do this degree. Grayling isn't looking to students or to the state to fund this, but to replicate the US model of alumni philanthropy. He hopes that through this model, all who are eligible to attend NCH will be able to. As you can imagine, there was a lot of discussion around this issue.

Why is this interesting? The new Imperial Horizons programme, aimed at teaching undergrads that science doesn't exist in a vacuum, will be rolled out for first year students in the next academic year. Engineers reading Plato... whatever next?"

To share your thoughts on this article visit Reporter *online:* **www.imperial.ac.uk/reporter**

The art of embellishment

A new exhibition in the Blyth Gallery on the South Kensington Campus features work by a number of artists focusing on the theme of embellishment. The word *embellishment* has a range of meanings from 'making beautiful', 'improving' and 'adding fictitious details' to 'wasteful exaggeration'. This indicates its slippery subjectivity, depending on the eye of the beholder. Each work requires a different strategy to achieve this act of embellishment. Some of the artists explore ideas and materials through excess and opulence, others by paring down.

To catch the exhibition visit the Blyth Gallery from 13 June–13 July

INVENTOR'S CORNER

Mobile tracking

Professor Kin K. Leung joined Imperial as Tanaka Professor of Internet Technology, following a 20-year research career in telecommunications at Bell Labs and is now Head of the Communications and Signal Processing Group (Electrical and Electronic Engineering). His research interests remain in telecommunications and he is working on a project that aims to push the boundaries of small cell technology for large-scale commercial applications.

A Femto box which encompasses the femtocell technology, developed by Alcatel-Lucent.

What is meant by small cell technology?

Small cell technology is a term for cell communication with a range of tens of metres or even less: wifi, for instance. Femtocells are another example; these are cellular base stations that improve network coverage and capacity in small areas by using low transmission power, therefore reducing network interference.

How will you apply femtocell technology?

We want to use femtocells in large areas, such as shopping centres. If commercial businesses knew precise customer shopping patterns – where they stay, what they buy – they would be able to tailor their services and products accordingly. We call this concept mobility profiling. We can track customer locations as their mobile phones are connected to the closest femtocell and this tracking precision is enough to obtain valuable information for businesses. The tracking and profiling method allows us to maintain user confidentiality; once an individual's data is collected, it is processed and absorbed into the profiling model parameters and can be instantly deleted.

How could this be developed further?

There are many potential applications. We could profile mobility between competing businesses or, with information from service providers, we could assess purchasing power against other factors, like age group and postcode. We recently filed our first patent application and plan to set up a spin-out company by the end of this year.

—KAILEY NOLAN, IMPERIAL INNOVATIONS

Being open in business

On 7 June Naveed Sultan, CEO of Global Treasury and Trade Services, Citi Transaction Services, presented a distinguished guest lecture at the Business School. Naveed regularly engages with students – teaching business at the University of Punjab and lecturing at Imperial. *Reporter* caught up with him before his talk to ask how important he thinks it is for business and academia to link up?

"We are always looking outside the organisation to bring great ideas in, and academia is one of the most important places where great ideas are being developed and tested. I studied at MIT in Boston and we were educated to be open in 'mind and hand' (*mens et manus* being the MIT motto). In our business, we also want to do this.

We also believe in bringing the practical aspects of business and our insights to academia, so that the research is more effective in driving the successful commercialisation of ideas."

—TANYA GUBBAY, COMMUNICATIONS AND DEVELOPMENT

Trekking to Machu Picchu

Katie Henry, Programmes and Workshops Administrator (Educational Development Unit), has begun raising money to fund a trek of the Inca Trail in Peru, on behalf of Macmillan Cancer Support, in 2013. She explains why she has taken on the challenge.

"I'm doing it in memory of my mum, who died from cancer in March, after battling the disease for 18 years. She had always wanted to go to Machu Picchu but never got the chance. Then I saw them advertising this hike in *Metro* and I just thought, 'I'm going to do it'. I need to raise a minimum of £4,000 by January but I want to raise £10,000, if possible.

I am raising funds for Macmillan because they support everyone living with cancer, whatever their background, and I want to make sure that everybody gets the same support my mum got, which made a huge difference to how she lived her life. I'm doing the trek with my dad and a couple of other family members and friends. I've started doing some long walks at the weekend, but I need to get used to walking up steep mountains and plan to do some hiking in September. It's very important your body is used to lots of walking before you get there, not only to increase your fitness levels but also to make sure you have the stamina, and don't end up being carried by a donkey!

> "I want to make sure that everybody gets the same support my mum got"

I'm trying to come up with some innovative ways to encourage people to donate and so, each month, I'm picking a donor at random and giving them a prize. For example, in June the prize is a baking lesson with my friend Rachel, who is a chef, where people can learn how to make the perfect profiterole or whoopee pie."

To support Katie's challenge and see if you can win one of her prizes visit: **www.justgiving.com/katie-henry**

moving in. moving on.

mailbox

Obituary for Professor Christopher Wastell (issue 246, published 3 May 2012)

Professor Iain Hutchison, Barts and The London, says:

Please pass on my condolences to his wife and family. Although I only worked for him for a short period, I regard him as one of the formative influences on my career, not only for his surgical skill and courage but also for his humanity and wisdom. He was a delight to work for because, although he always challenged me to deliver more academically, he was solicitous and supportive. It was clear he was a contented man who led a full and happy life.

Talk to us!

Send us your comments on any *Reporter* story at: **www.imperial ac.uk/reporter**, or email: **reporter@imperial.ac.uk**

Bone-shaking journey

This July, final year Physics student, Kadhim Shubber, his tandem and a life-sized human skeleton will set off on a record-breaking 900-mile journey from John O'Groats to Land's End. He is hoping to raise £10,000 for the Rector's Scholarship Fund, which helps Imperial students cope with the cost of studying in London.

In the process, Kadhim is hoping to set the record for the longest tandem bicycle ride with a full-sized artificial skeleton on the back seat, which was first set at 437 miles in 1987 by Art Hoffman, an anti-smoking campaigner from Louisville, Kentucky, USA.

Speaking of the two-week trip, on which he will be accompanied by second year physicist Sioni Summers, Kadhim says: "I'm most looking forward to seeing new parts of the UK and meeting people on the way. In my head, I'll be cycling across miles and miles of beautiful, sunny countryside but, no doubt, it will end up being mostly rain and traffic."

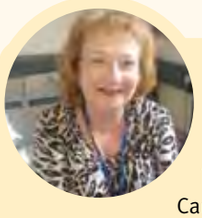
To support Kadhim and follow his journey visit: **www.skeletonfund.com**

Welcome
new starters

Mrs Elfleda Ariate, NHLI
Dr James Arpino, Mathematics
Mr Fotis Begklis, Business School
Mr Michael Bessel, ICT
Mr Gavin Blake, Accommodation
Ms Zula Boguslawska, Catering
Dr Adam Booth, ESE
Ms Helen Booth, Faculty of Medicine
Dr Konrad Bradley, Medicine
Mr Guglielmo Bruno, Catering
Dr Sally Burtles, Surgery and Cancer
Ms Lisa Cheung, Physics
Mr Peter Collingbourne, Computing
Ms Alenah Da Costa, Sport and Leisure
Mr Joao Da Silva Burgal, Chemical Engineering
Miss Jenny Donaghey, Chemistry
Miss Sophia Eglin, Faculty of Medicine
Mr Nicholas Fyson, Mathematics
Miss Lilyanne Gamble, Surgery and Cancer
Miss Lochani Ganegoda, Catering
Miss Sara Giarola, Chemical Engineering
Dr Jeraime Griffith, Life Sciences
Mr Lorcan Grimes, Catering
Dr Anna Hankin, Chemical Engineering
Miss Leah Harounoff, Catering
Mr Dean Haughton, Catering
Mr Sijin He, Computing
Mr Stuart Irving, Chemistry
Mr Dominic Jackson, ICT
Ms Ruth Jenkins, Library
Miss Philippa Kennedy, Global Health Innovation
Mr Shirazi Khan, Accommodation
Mrs Thusharika Kodagoda, NHLI
Dr Konstantinos Konstantopoulos, Medicine
Dr Terhi Korkiakangas, Surgery and Cancer
Mr Charlie Leppington, Library
Dr Maria Mencia Torrubiana, Humanities
Miss Rie Mizumoto, NHLI
Dr Shoma Nakagawa , Surgery and Cancer
Dr Flavia Niccolini, Medicine
Mr Norman Nicholls, Chemical Engineering
Dr Pierre Nouvellet, Public Health
Miss Clare Pengelley, NHLI
Miss Hannah Perry, Surgery and Cancer
Dr Paul Ramchandani, Medicine
Dr David Richards, Life Sciences
Mr Oliver Robinson, Public Health
Mrs Edna Ropero Reyes, Catering
Miss Carlene Rowe, Medicine
Dr Yorifumi Sato, Medicine
Dr Jan-Hendrik Schroeder, Medicine
Ms Felicity Scott, International Office
Ms Charlotte Stoneham, Life Sciences
Mr Jiacheng Sun, NHLI
Mrs Minna Turkkila, NHLI
Miss Reanne Varker, Accommodation
Miss Sharon Weldon, Surgery and Cancer
Ms Georgina Wildman, Library
Miss Michelle Willows, Aeronautics
Mr Joe Witts, Registry
Dr Daniel Engstrom, Materials
Mr Stefano Franco, Public Health
Professor Elena Garralda Hualde, Medicine
Mrs Dympna Hayes, Humanities
Mrs Princy Imthiyaz, EYEC
Mr Robert Jackson, Catering
Dr Chuanbo Li, EEE
Dr Naomi Low-Beer, Faculty of Medicine (5 years)
Mr Stuart Lowe, Materials
Dr Christina Malamateniou, Clinical Sciences
Mr Kieran McGourty, Medicine
Dr Bernard North, Public Health (6 years)
Ms Livia Paggi, Environmental Policy
Mr Richard Phibel, Mechanical Engineering
Mrs Fiona Rose-Clarke, Surgery and Cancer
Dr Pete Simpson, Life Sciences (11 years)
Mr Paul Su, Medicine
Dr Harriet Taylor, Life Sciences
Mr Richard Tee, Business School
Mr Georgios Tychogiorgos, EEE

Farewell
moving on

Dr Helena Andersson, Medicine
Mr John Blamey, Chemical Engineering
Mr Niall Burke, NHLI
Dr Xavier Casadevall i Solvas, Chemistry
Miss Lucinda Cash-Gibson, Public Health
Dr Georgia Chan, Life Sciences
Mr Robert Cummins, Faculty of Natural Sciences



Ann Smith, Administrator, MSc in Surgical Science (Surgery and Cancer)

Ann first joined Imperial in 1967 as a secretary in the Wellcome Library at the Hammersmith Campus. Her 44 years at the College have seen her hold a number of positions, including a 24-year stint as PA to Sir Gordon Robson, Professor of Anaesthetics. Ann's best friend is also retiring in June, and they plan to explore the UK and France by train.

This data is supplied by HR and covers the period 7–27 May. The data was correct at the time of going to press.

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

FANCY BEING AN OLYMPIC SPORTS REPORTER?

If you are one of the lucky people going to see any of the events at the 2012 Olympic and Paralympic games, *Reporter* wants to hear from you! We are looking for on-the-ground reporters to email us short reports of their experiences for publication in *Reporter* online.

If you have tickets and are keen to get involved, contact the Editor for more information:
✉ **reporter@imperial.ac.uk**
✆ **+44 (0)20 7594 6715**

20 JUNE ▸ PUBLIC LECTURE

A good start in life: go to work on an egg

Female mammals are born with a finite supply of eggs, some of which will grow to be the largest cells in the body. The health of the mature egg has a profound effect on the fitness of the future baby, child and adult. Professor Kate Hardy (Surgery and Cancer) will talk about her research on the development and cell biology of the embryo before it implants, how the growth of eggs (single cells) and very early embryos (a few cells) is regulated, and how cells communicate with each other.

26 JUNE–2 JULY ▸ EXHIBITION

Beautiful Science

Biomedical scientists from Imperial are collaborating with artists to share their unseen research and explore the everyday work of science. From the secret delicacy of bones to the chemical soup of connections between life structures, this exhibition at the Brick Lane Gallery (Annexe), reveals some of the key building blocks to discovery that are less frequently shown by a media that prefers to present the final discovery. The show is open daily from 13.00–18.00. Visit the gallery: 196 Brick Lane, London, UK E1 6SA.

18 JUNE ▸ SEMINAR

Envelope assembly and function in bacterial pathogens

Professor Olaf Schneewind, University of Chicago

18 JUNE ▸ PUBLIC LECTURE

Dissecting cancer heterogeneity

Dr Florian Markowetz, Cancer Research UK

20 JUNE ▸ SPORT

Fun in the sun – touch rugby tournament

Open to students and staff

20 JUNE ▸ PUBLIC LECTURE

Alchemy

Dr Sha Xin Wei, Concordia University, Montreal, Canada

21 JUNE ▸ SEMINAR

Annual Scientific Research Meeting

National Centre for Infection Prevention and Management

23 JUNE ▸ MUSIC

Exhibition Road Music Day

Including Imperial's a cappella student groups: Techtonics, Imperielles and Scopes

25 JUNE ▸ PUBLIC LECTURE

Asthma in the DNA age

Professor Miriam Moffatt (NHLI)

26 JUNE ▸ PUBLIC LECTURE

To err and to iterate: prototyping, design thinking and validation in business development

Speakers include Justin Pirie, Mimecast

27 JUNE ▸ PUBLIC LECTURE

Spacetime and the quantum: united by history

Professor Fay Dowker (Physics)

27 JUNE ▸ PUBLIC LECTURE

Women's health, equity and public health interventions

Professor Dame Sally C. Davies, Chief Scientific Advisor for the Department of Health

28 JUNE ▸ OPEN DAY

Science and Engineering Open Day for Year 11 and 12 students

29–30 JUNE ▸ PUBLIC LECTURE

The Great Debate

Hosted by Professor Justin Cobb (Surgery and Cancer)

MPs ON CAMPUS

Two MPs – Minister for Universities and Science David Willetts and Schools Minister Nick Gibb visited Imperial last week. Willetts (pictured left) signalled the impact of Imperial public policy and innovation research in a lecture given in the Skempton Building. Gibb hosted the first visit in the Department for Education's Dux Scheme. The scheme aims to raise aspirations among talented and hardworking school pupils – *Dux* being Latin for 'leader' or 'champion'.

take note

Timetabling project

A new College-wide timetabling system is coming into operation in October 2012 with the aim of optimising student and staff time and the use of lecture theatres. The new centralised software system, called Optime, will initially be used for all major lecture theatres across the College and will automatically generate timetables, taking into consideration factors such as room location and size.

MEET THE READER

Jo Seed, PA and Project Administrator (Environmental Policy)

What are you doing in the picture?
I'm in Prince's Gate Gardens behind our Centre for Environmental Policy offices. It's so nice working in London but still being able to enjoy the greenery – we even have a local fox! I hope all the staff who are moving here from Mechanical Engineering will enjoy the space this summer.

What would you do if you were the editor of *Reporter* for a day?
I'd interview two professors with competing views on a controversial issue, such as GM crops, and run their views alongside each other.

Who would be your cover star?
I'd like to feature Judy Barnett, Lindsay Comalie and all the Learning and Development team. I've been on the Pegasus talent development course since last November and it's been brilliant at helping me consider where I want my career at the College to go next.

Want to be the next reader featured in Reporter*? Send in a picture of yourself with a copy of* Reporter *in your location of choice to:* ✉ **reporter@imperial.ac.uk**

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