

School of Public Health's  
Elio Riboli on why  
preventative medicine's  
time has come

◆◆◆ CENTRE PAGES

A large portrait of Elio Riboli, a middle-aged man with grey hair, wearing a blue suit jacket and a light blue shirt, smiling. The background is a blurred crowd of people.

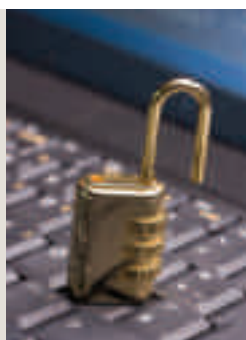
## Doctors to the people



### GIANT-SCALE RAINFOREST STUDY LAUNCHED

Imperial leads  
eco-experiment  
in Borneo

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### SAFETY NET

Top tips to  
keep your  
computer safe  
from hackers

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### LIVING FOSSILS

*Reporter*  
discovers  
the animals  
that cheated  
extinction

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EDITOR'S CORNER

## Community spirit

Last week I heard the sad news that Martin – the most **popular Big Issue seller** I've ever encountered – had died. Since I started at Imperial, Martin never failed to cheer up my morning – his smiling face and calls of “good morning” were a welcome respite in the seemingly endless tunnel connecting South Kensington tube and Imperial's main campus. His **warm personality** drew passers by to his spot to buy his magazine and he had a genuine interest in the lives of all of us who chatted to him on a regular basis. Reading the comments which have poured into *Reporter* online since Martin died, it's clear that he was a **shared friend of staff and students** from different pockets of the College – a link between people whose paths had not yet crossed. He held a unique position in our community and his memory will live on during our morning commutes to work or lectures, which will never be quite the same. To read the full obituary for Martin see page 14 and to share your memories at: [www3.imperial.ac.uk/news/martin](http://www3.imperial.ac.uk/news/martin).

EMILY ROSS, EDITOR

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## London office for new Imperial-NTU medical school

Imperial's partnership with Nanyang Technological University (NTU) to develop Singapore's third medical school, recently named the Lee Kong Chian School of Medicine, was celebrated at the opening of the project's London office on 21 January.

The office, which will coordinate Imperial's contribution to the creation of the medical school, including the development of the curriculum, is housed on the 12th floor of the Electrical and Electronic Engineering Building on the South Kensington Campus. His Excellency Michael Eng Cheng Teo, Singapore's High Commissioner, opened the office in the presence of staff from NTU and Imperial who are involved in the project.

At the opening ceremony, Professor Martyn Partridge, Senior Vice Dean of the Lee Kong Chian School of Medicine, thanked staff across the College, who are already contributing to the success of the new medical school, for example through considering the academic support the trainee



Michael Eng Cheng Teo opening the London office.

doctors will need, from library facilities to e-learning tools.

Speaking of his vision for the new medical school, Professor Partridge said: “The ethos is to produce the sort of doctors that you and I would like to have caring for us. In our teaching we must maintain the scientific basis of medicine and ensure that patients are at the centre of all care.”

— SIMON WATTS, COMMUNICATIONS AND DEVELOPMENT

See page 11 to read insights into *Imperial life* from NTU's Assistant Director of Corporate Communications

## Landscape not landfill

The first batch of compost from Imperial's CompPod food composting plant was used by gardeners on the South Kensington Campus this month.

The CompPod uses technology developed at the College to process the 1.1 tonnes of food waste produced each week on the South Kensington Campus. It brings together fundamental chemical, biological and engineering principles, which Imperial researchers used to find the best composting environment, by experimenting with the temperature, the carbon and nitrogen balance, and the size of food particles. Research on the composting unit was carried out at the College's Centre for Environmental Control and Waste Management, in conjunction with manufacturing and technology company IMC Ltd, which supplied the CompPod equipment.

Daniella McManamon (Facilities and Property Management) gave *Reporter* an update on the CompPod's activities and recent successes: “It is hard to believe that the material we are using on our flowerbeds around campus, which is entirely odourless and resembles coarse coffee grounds, was once food waste. It is even stranger to consider that, what is now used to enhance the campus, would most likely have ended up in landfill before the existence of the CompPod. That is, before the CompPod came into operation and revolutionised food waste disposal at Imperial last year.”



Volunteers applying the new compost to flowerbeds on the South Kensington Campus.

## Imperial College London

### New venue for Varsity!

The Twickenham Stoop Stadium, home to the Harlequins Rugby Club, has been confirmed as the new venue for Imperial's JPR Williams Rugby Varsity Match for the next three years, starting with the Varsity Match on Wednesday 16 March 2011. The Stoop, home to the Harlequins since 1963, has a capacity of 12,700 and offers the high standard of facilities expected of a professional rugby club.



For tickets visit: [www.imperial.ac.uk/sports/varsity](http://www.imperial.ac.uk/sports/varsity)

## Major ecological study on Borneo's deforested landscapes

A giant-scale experiment on deforestation, biodiversity and carbon cycling is underway in the spectacular forests of Sabah, a Malaysian state on the South East Asian island of Borneo. Imperial scientists hope the results will help guide the management and conservation of remaining rainforests in tropical Asia.



**“This study will help scientists to design landscapes that maintain agricultural production at least cost to biodiversity.”**

One of the largest ecological studies in the world, encompassing 8,000 hectares (an area larger than Manhattan), the Stability of Altered Forest Ecosystems (SAFE) Project was officially launched last month by the Prime Minister of Malaysia.

Over the next 10 years, scientists from Malaysia and the UK will be studying how deforestation and forest fragmentation alter the ability of this tropical landscape to support a unique diversity of life. They will also be investigating the impact of agricultural development on the ecosystem's ability to absorb carbon dioxide, an important greenhouse gas. This is the first time an experiment

of this magnitude, nature and influence has been attempted, more than doubling the size of previous experiments conducted over the last 30 years.

The SAFE Project involves researchers from Imperial, the University of Cambridge and the University of Oxford. It is supported by the UK Royal Society's South East Asia Rainforest Research Programme and 30 million Malaysian ringgit (about £6.1 million) from the Sime Darby Foundation.

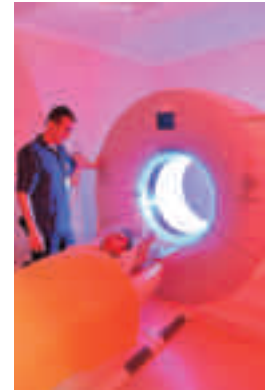
Project leader, Dr Robert Ewers (Life Sciences), said: “The potential impact of the SAFE Project is global and far-reaching. The findings of this study will help scientists to design landscapes that maintain agricultural production at the least cost to biodiversity.”

In his speech, the Chairman of Sime Darby, Tun Musa Hitam, said: “We need to understand how best to produce food and do it without compromising the ability of future generations to meet their own needs... The SAFE Project will help us to understand how best to achieve this.”

— SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## New laboratory aims to revolutionise surgery

Metabolic profiling of tissue samples could transform the way surgeons make decisions in the operating theatre, said Imperial researchers at a new laboratory launched on 12 January.



Scientists at Imperial College London, in partnership with clinicians at Imperial College Healthcare NHS Trust, have installed a high resolution, solid state, nuclear magnetic resonance (NMR) spectrometer in St Mary's Hospital. Researchers will use the machine to analyse intact tissue samples from patients taking part in studies, to investigate whether it can ultimately give surgeons detailed diagnostic information while their patients are under the knife.

The Surgical Metabonomics Laboratory will be led by the surgical innovator, Professor Lord Ara Darzi (Surgery and Cancer), and Professor Jeremy Nicholson, Head of the Department of Surgery and Cancer.

The science of metabonomics, which involves comprehensively measuring the metabolic changes in a person's body, has been pioneered by the Imperial team over the last 20 years. A ‘metabolic fingerprint’ can provide a wealth of information about the state of a person's health.

Now the Imperial team have acquired an NMR machine – that will analyse solid tissue samples from patients undergoing surgery with Imperial College Healthcare.

Professor Darzi, Chairman of the Institute of Global Health Innovation at Imperial College London and Honorary Consultant Surgeon with Imperial College Healthcare NHS Trust, said: “Using NMR, we can simultaneously measure all of the chemicals that the body is producing and analyse those data to give the surgeon real-time information about the patient's condition, which will help them to make decisions.”

— SAM WONG, COMMUNICATIONS AND DEVELOPMENT

### in brief



#### Faculty Operating Officer – Engineering

Mr Richard Martin has been appointed Faculty Operating Officer for the Faculty of Engineering. Mr Martin succeeds Mr David Gray, who retired from the College in January. Mr Martin joined the College in 2000 as a Management Trainee. He was appointed

Deputy Faculty Administrator for the Faculty of Engineering in 2003, becoming Deputy Faculty Operating Officer in 2004. In 2007, he moved to UCL, where he was first Faculty Manager of the Faculty of Engineering Sciences and, more recently, Chief Operating Officer of the UCL School of Energy and Resources, Australia.

#### Deputy Principal (Research) – Faculty of Medicine

Professor Jonathan Weber has been appointed Deputy Principal (Research) in the Faculty of Medicine. In this new role, which he assumed on 1 January 2011, Professor Weber works closely with the Principal of the Faculty of Medicine and key stakeholders, to define and deliver the Faculty's research strategy. Professor Weber has been Director of Research for the Faculty of Medicine and Imperial College Healthcare NHS Trust since 2008.

#### Imperial now on iTunesU


The College's extensive media library of audio and video clips is now available through iTunesU. More than 700 pieces of content covering all areas of the College's research, teaching and student activities can now be downloaded using an iTunes account. The collection includes gems from the Imperial archive, scenes of modern campus life, and clips of academics explaining research results.

Search for Imperial College London in the iTunesU store: [www3.imperial.ac.uk/itunesu](http://www3.imperial.ac.uk/itunesu)

“It seems naive to think that something as complex as the weather will become warmer at a uniform rate”

SIR BRIAN HOSKINS, DIRECTOR OF THE GRANTHAM INSTITUTE FOR CLIMATE CHANGE, PONDERING THE QUESTION: “ARE THE COLD SNAPS WE'VE SEEN IN THE UK OVER THE LAST TWO WINTERS A RESULT OF CLIMATE CHANGE?”

To read the full article visit: [www.imperial.ac.uk/news/brianhoskins](http://www.imperial.ac.uk/news/brianhoskins)

Imperial College Healthcare   
NHS Trust

## A major way to save lives

Critically injured patients are receiving life saving treatment at Imperial College Healthcare NHS Trust's new Major Trauma Centre (MTC) based at St Mary's Campus.

The Centre, which boasts a state-of-the-art theatre with 'black box' technology and a 16-bed major trauma ward, will treat up to 500 patients a year.

Key features of the theatre, which is the biggest in the Trust, include multiple cameras and screens, so that the surgical team has a 360-degree view of everything that is happening. The footage can be streamed to a lecture theatre for teaching and recorded for audit purposes.

There is a blood cell salvage machine in the theatre, which cleans the patient's lost blood before recirculating it, reducing the amount of donor blood needed, and a specialist air flow system around the operating table which increases ventilation, decreasing the risk of infection.

Consultant vascular surgeon, Mr Michael Jenkins, Director of the Major Trauma Centre, said: "The technology in our MTC is truly cutting edge and will enable us to give patients with serious and multiple injuries the very best chance of survival. We have recruited experts in a range of specialties from across the country to work in our MTC, which will be one of only four such facilities in London."

## Best in Britain

Ten Imperial College Healthcare NHS Trust consultants have been named as leaders in their specialties in a list compiled by *The Times*. The directory of 'Britain's top doctors' was published in November 2010 after six months of research, during which charities, specialists, and professional bodies and associations were asked to name the top consultants in a particular field. *The Times'* medical correspondent, Dr Mark Porter, said those named on the list, "are not just extraordinary doctors but extraordinary people".

The Trust consultants featured in the guide, nine of whom also hold appointments at the College, are: Professor John Warner (Medicine), Mr Hesham Saleh, Mr Peter Clarke, Professor Lord Ara Darzi, Mr Justin Vale, Mr Sailesh Kumar, Professor Lesley Regan and Mr Geoffrey Trew (all Surgery and Cancer), Professor Martyn Partridge (Lee Kong Chian School of Medicine) and Mr Roberto Casula, a consultant cardiothoracic surgeon at the Trust.

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

# Wind Power returns, with strings attached



On 26 January the Coldstream Guards marched into Imperial, to perform alongside staff and students in a benefit concert supporting the College's musical life.

The Band of the Coldstream Guards first joined forces with Imperial's windband for Wind Power in 2009. Last month's follow up event, Wind Power 2: With

Strings Attached, saw the bands joined by the award winning Imperial College Symphony Orchestra.

Workshops and rehearsals throughout the day gave the students involved the chance to practise alongside their opposite numbers in the Band of the Coldstream Guards. Then, at 18.30 they faced the music for the evening concert, the proceeds of which will support

music scholarships at Imperial as well as charities linked to the Guards.

The evening's host, Professor Julia Buckingham, Pro Rector (Education and Academic Affairs), was joined by Lord Robert Winston, the College's Professor of Science and Society, who also performed alongside the bands on the saxophone.

Professor Buckingham said: "Music has played a very important part in the lives of many students at Imperial throughout the College's history, and maintaining a connection with the arts is something Imperial is always keen to encourage. Wind Power is a wonderful opportunity to both showcase and support musical talent".

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

## Phones for the future

Two members of the team from Orange Innovation Labs dropped into Imperial on 31 January, to challenge MSc students to design an innovative and inspired new mobile phone application. The labs are the hub for the development of new products and technology for the telecommunications company, Orange.

Orange's Ashraf Hegab and Andrew Jackson, met with two teams of students from Imperial's MSc course in Computing. The brief for the students is to find an original idea for an application, drawing on the themes of augmented reality and neurotechnology over the next two months.

Augmented reality refers to a view of a real-time environment, which has been overlaid with computer generated features. Neurotechnology results from the fusion of neuroscience research with technology, with applications including the development of devices to help elderly people or those with impairments.

Dr Aldo Faisal (Bioengineering) worked



Orange's Ashraf Hegab (far right) speaking to students.

with the Departments of Bioengineering and Computing to set up these projects with Orange Innovation Labs: "Our MSc students will get the best from the research and business world to produce innovation: they will draw on state-of-the-art research and technology from Imperial, advice from Orange professionals and then have their project assessed by the real world."

—JOHN-PAUL JONES, COMMUNICATIONS AND DEVELOPMENT

## media mentions

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT



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[www.imperial.ac.uk/media/jointsignup](http://www.imperial.ac.uk/media/jointsignup)

THE OBSERVER ▶ 2.1.2011

### Professor predicts preservation predicament



Professor Georgina Mace (Life Sciences) was among 20 experts asked by *The Observer* to predict how she expects the world to change in the next 25 years. She wrote: “We all want to live in a world where species such as tigers, the great whales, orchids and coral reefs can persist and thrive, and I am sure that the commitment that people have to maintaining the spectacle and diversity of life will continue... But it is going to become much harder. The human population has roughly doubled since the 1960s and will increase by another third by 2030... Increasingly, we won’t be living as a part of nature but alongside it”.

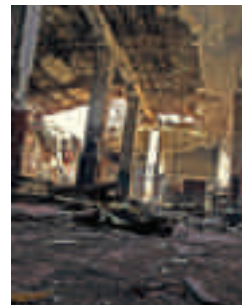
FINANCIAL TIMES ▶ 7.1.2011

### NHS reform will damage healthcare

Economics expert Professor Carol Propper (Business School) recently spoke out against Health Secretary Andrew Lansley’s plans to allow public and private hospitals to compete on price for NHS patients. Speaking to the *Financial Times*, she said that he was ignoring all the evidence on the impact of price competition in the hospital sector and that this would potentially endanger patients’ lives. She added that the move would “raise the prospect of two-for-one deals on surgery and cut price consultations for certain specialities”. The newspaper noted Professor Propper’s research, which found that when GPs were able to negotiate prices in the 1990s, hospitals brought down costs and shortened waiting times, but at the expense of quality.

THE GUARDIAN ▶ 12.1.2011

### Buildings, not earthquakes, kill people



Following the publication of a report by Emeritus Professor Nicholas Ambraseys (Civil and Environmental Engineering), which found that deaths from earthquakes are continuing to rise despite advances in tremor-resistant building design, he told *The Guardian* that earthquake death tolls are higher in countries with corrupt building and planning regulations. “The six-digit death toll from last year’s Haiti earthquake compared with the absence of any fatalities in New Zealand’s identical magnitude earthquake (seven) was a stark reminder that poor building practices are largely to blame for turning moderate earthquakes into major disasters,” he added.

NEW SCIENTIST ▶ 19.1.2011

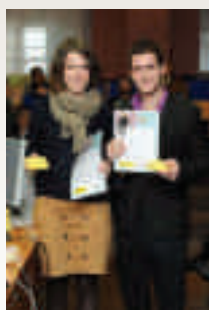
### Pressing the flesh never seemed so real

Scientists have developed a new surgical simulation to model spilt blood and burning flesh more accurately, reported *New Scientist*. The tool brings new realism to simulated operations, mimicking how organs react when they are grasped, cut or surgically heat-sealed, and replicating how smoke or bleeding could affect a surgeon during an operation. The team from Rensselaer Polytechnic Institute hopes to refine the software further and even transfer it to video games. “This is a very clever way to do it,” Dr Vincent Luboz (Surgery and Cancer), who works on surgery simulators, told *New Scientist*. But he added that the technique is more suited to general training than to rehearsing before a particular operation.

## awards and honours

NATURAL SCIENCES

### Arquimedes University Contest



Young physicists, Cristian Candela and Mireia Crispin, who studied at Imperial during 2009–10 as part of an undergraduate exchange, working under Dr Morteza Aslaninejad (Physics), have received €9,500 and the Special Prize for the

International Year for the Rapprochement of Cultures in the ninth Arquimedes University Contest. Their award winning project was on the development of proton therapy, one of the most advanced techniques in cancer therapy.

MEDICINE

### International Academy of Pathology

Emeritus Professor in Histopathology, Kristin Henry (Medicine), has been appointed President of the International Academy of Pathology (IAP). Professor Henry’s appointment recognises her commitment to international educational activities in pathology and many years as Chair of the IAP Education Committee, as well as her efforts to ensure support for under-served IAP divisions.

ENGINEERING

### Annual Harveian Lecture

Emeritus Professor Colin Caro (Bio-engineering) delivered the annual Harveian Lecture to the Harveian Society of London on 12 January 2011. His lecture was entitled *The circulation within the circulation: something Harvey may not have known*. The Society and the lecture are named after William Harvey, who made the discovery, in the seventeenth century, that the blood circulates round the body; a finding that overturned beliefs that had been held for almost 2,000 years.

NATURAL SCIENCES

### Blaise Pascal Medal

Emeritus Professor Howard Morris (Life Sciences) has been awarded

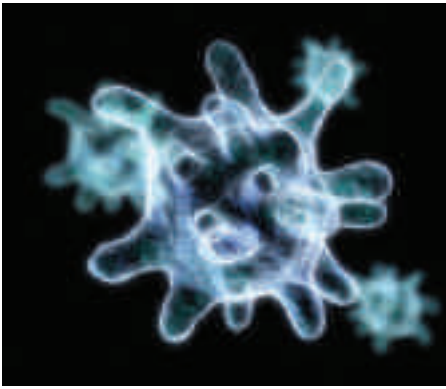
the prestigious Blaise Pascal Medal in Medicine and Life Sciences by the European Academy of Sciences. Professor Morris is regarded internationally as the founding father of modern biomolecular mass spectrometry.



NATURAL SCIENCES

### Buck made Fellow of the Society of Biology

Martin Buck, Professor of Molecular Microbiology (Life Sciences), was elected a Fellow of the Society of Biology on 1 January 2011. He leads a research group studying the molecular processes that underpin bacterial adaptations to environmental change.



## Scientists find the 'master switch' for key immune cells in inflammatory diseases

Scientists have identified a protein that acts as a 'master switch' in certain white blood cells, determining whether they promote or inhibit inflammation. The study, published in *Nature Immunology* on 16 January, could help researchers look for new treatments for diseases such as rheumatoid arthritis that involve excessive inflammation.

Inflammatory responses are an important defence that the body uses against harmful stimuli, such as infections or tissue damage, but in many conditions excessive inflammation can itself harm the body. In rheumatoid arthritis, the joints become swollen and painful, but the reasons why this happens are not well understood.

Cells of the immune system called macrophages can either stimulate inflammation or suppress it by releasing chemical signals that alter the behaviour of other cells. The results of this study show that a protein called IRF5 acts as a molecular switch that controls whether macrophages promote or inhibit inflammation.

The results suggest that blocking the production of IRF5 in macrophages might be an effective way of treating a wide range of autoimmune diseases, such as rheumatoid arthritis, inflammatory bowel disease, lupus and multiple sclerosis. In addition, boosting IRF5 levels might help to treat people whose immune systems are compromised.

Lead author, Dr Irina Udalova (Kennedy Institute), said: "Our results show that IRF5 is the master switch in a key set of immune cells, which determines the profile of genes that get turned on in those cells. This is really exciting because it means that if we can design molecules that interfere with IRF5 function, it could give us new anti-inflammatory treatments for a wide variety of conditions."

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

## How curious cancer thrives in dogs



A curious contagious cancer found in dogs, wolves and coyotes can repair its own genetic mutations by adopting genes from its host animal, according to a new study by researchers in the Department of Life Sciences, published in *Science* on 20 January.

Canine transmissible venereal tumour (CTVT) is a very unusual form of cancer that is typically transmitted by mating, though it can also be spread by licking, biting or sniffing tumour-affected areas. The cancer cells themselves move directly from

dog to dog, acting like a parasite on each infected animal.

The study has uncovered an unusual process that helps the cancer to survive by stealing tiny DNA-containing powerhouses, known as mitochondria, from the cells of the infected animal, to incorporate as its own. The results are surprising because mitochondria and their genes are usually only passed

"Our study has revealed that this type of cancer works in a really unexpected way"

from a mother to her offspring.

The researchers believe that the cancer does not take up new mitochondria with every new host but that this process functions as an occasional repair mechanism to replace faulty mitochondria. A naturally high rate of genetic mutation in cancers regularly leads to non-functional genes in the CTVT mitochondria, which causes them to lose productivity.

Lead author, Professor Austin Burt (Life Sciences), said: "Our study has revealed that this type of cancer works in a really unexpected way.

It raises some really important questions about the progression of other cancers, such as how they repair their own DNA."

The scientists hope their work can be used by medical researchers to advance our knowledge of cancer progression.

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## Boys will infect boys

Boys predominantly pass on flu to other boys and girls to girls, according to a new study of how swine flu spread in a primary school during the 2009 pandemic, published on 30 January in the journal *Proceedings of the National Academy of Sciences*. The results also suggest that flu transmission is most intensive between children in the same class, but that sitting next to an infected person does not significantly increase a child's risk of catching flu. The data will help researchers to model how epidemics spread and how interventions such as school closures can help contain an outbreak.

In the study, researchers from Imperial, the US Centers for Disease Control and Prevention and the Pennsylvania Department of Health analysed how social networks influenced the spread of H1N1 pandemic flu in an elementary school in Pennsylvania.

The results showed that children are about three times more likely to transmit flu to children of the same gender than to children of the opposite gender. The

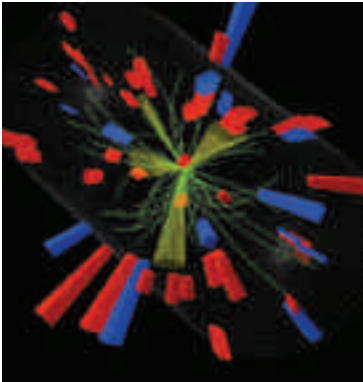


researchers also found that the transmission rate is about five times higher between classmates, than between children in a different class in the same grade, and about 25 times higher than between children in different grades.

"Mathematical models are useful for predicting how outbreaks will spread, but in order to make the models accurate, we need to supply them with data about how disease spreads in the real world," said Dr Simon Cauchemez, the lead author of the study from the Medical Research Council Centre for Outbreak Analysis and Modelling at Imperial.

—SAM WONG, COMMUNICATIONS AND DEVELOPMENT

## Hunt for dark matter closes in at Large Hadron Collider



Imperial physicists are closer than ever to finding the source of the universe's mysterious dark matter, following a better than expected year of research at the Compact Muon Solenoid (CMS) particle detector, part of the Large Hadron Collider (LHC) at CERN in Geneva.

The scientists have now carried out the first full run of experiments that smash protons together at almost the speed of light. When these sub-atomic particles collide at the heart of the CMS detector, the resultant energies and densities are similar to those that were present in the first instants of the universe, immediately after the Big Bang

some 13.7 billion years ago.

The researchers say they are well on their way to being able to either confirm or rule out one of the primary theories that could solve many of the outstanding questions of particle physics, known as supersymmetry. Many hope it could be a valid extension for the standard model of particle physics, which describes the interactions of known sub-atomic particles with astonishing precision but fails to incorporate general relativity, dark matter and dark energy.

Professor Geoff Hall (Physics), who works on the CMS experiment, said: "We have made an

**"We have made an important step forward in the hunt for dark matter, although no discovery has yet been made"**

important step forward in the hunt for dark matter, although no discovery has yet been made. These results have come faster than we expected because the LHC and CMS

ran better last year than we dared hope and we are now very optimistic about the prospects of pinning down supersymmetry in the next few years."

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## Wealth of orchid varieties is down to busy bees and helpful fungi

Scientists have discovered why orchids are one of the most successful groups of flowering plants; it is all down to their relationships with the bees that pollinate them and the fungi that nourish them.

The study, published on 1 February in *The American Naturalist*, is the culmination of a 10-year research project in South Africa involving researchers from Imperial, the Royal Botanic Gardens, Kew, and other international institutions.

The orchid family is one of the largest groups of flowering plants, with over 22,000 species worldwide. The new research suggests that there is such a huge range of species because orchids are highly adaptable and individual species can interact with



bees, and other pollinators, in different ways.

For example, when orchids *Pterygodium pentherianum* and *Pterygodium schelpei* live side by side, *Pterygodium pentherianum* puts its pollen on the bee's front legs, whereas *Pterygodium schelpei* puts it on the bee's abdomen, as in the photo above. This means that one bee can carry pollen from two distinct species without mixing it.

The study also shows how orchids are able to live harmoniously together, with different species working in partnership with different microscopic fungi in the soil, ensuring they do not compete with each other.

Professor Tim Barraclough (Life Sciences), co-led an international team of plant scientists to investigate how these interactions affect orchid diversity. "Orchids are hyper-diverse globally, particularly in South Africa, where they have diversified to a large extent, so we wanted to find out how lots of species are able to exist without competition," he said.

—SIMON LEVEY, COMMUNICATIONS AND DEVELOPMENT

## Planck unveils wonders of the universe

Scientists from Imperial and the European Space Agency, working on Europe's Planck spacecraft, released the mission's first scientific findings on 17 December in *Astronomy and Astrophysics*, revealing the coldest objects in the universe in greater detail than ever before.

Planck's primary goal is to take images of the cosmic microwave background (CMB), the afterglow of the Big Bang, and to provide valuable data for a broad range of studies in astrophysics while doing so.

One of Planck's major technological strengths is its ability to detect the clumps of very cold gas and dust from which stars are born, and which they create when they die.

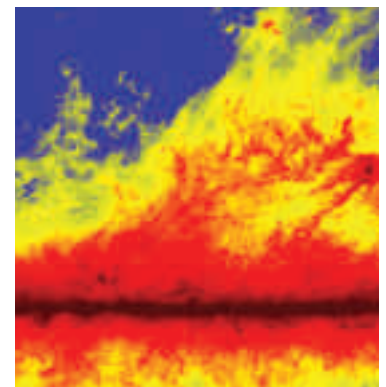
The astronomers surveyed around 500 galaxies closer than a few billion light years and found that some of them contained much more cold dust than expected. They also found evidence of previously invisible galaxies that formed new stars at rates some 10 to 1,000 times higher than we see in the Milky Way today.

In addition, Planck has also

collected new data on clusters of galaxies – the largest structures in the universe, each containing thousands of galaxies. These show up in the Planck data as compact silhouettes against the CMB.

"Planck will help us to build a ladder connecting our Milky Way to the faint, distant galaxies and uncovering the evolution of dusty, star-forming galaxies throughout cosmic history," said Dr David Clements (Physics), part of the Planck team.

—ADAPTED FROM A NEWS RELEASE ISSUED BY THE UK SPACE AGENCY



Colour coded image of cold dust in the Milky Way.

# preventative medicine

**TACKLING PUBLIC HEALTH**

“We have big battles to fight,” says Professor Elio Riboli, Director of the School of Public Health. “The demographics of our society are rapidly changing and we need to alter our approach to meet the needs of the population”.

Reporter finds out what researchers in the School of Public Health plan to do to help the world’s expanding population tackle issues including obesity, cardiovascular and infectious diseases.

The key aim of the School of Public Health is to improve the health of populations around the world. “I think the School at Imperial is extremely well placed,” says Elio (pictured on the front cover). “We are conducting top level research into chronic and infectious diseases and how to prevent them. And, because of the Imperial College Healthcare NHS Trust, we have a powerful link to community medicine and the opportunity to develop major population-based initiatives,” he adds.

## Prevention

Elio is confident that the majority of the population will be able to enjoy long and healthy lives, if healthcare professionals turn their attention to developing methods that prevent people from getting the diseases in the first place. He notes that there is a lot we can do to prevent common diseases.

Elio first became interested in disease prevention when he was a young research fellow conducting clinical trials at a pharmaceutical company in Italy. “I recognised that although treating diseases is extremely important, there are a huge number of common chronic diseases, such as diabetes and hypertension, which, in most cases, can be addressed by having a good diet and getting some exercise, in addition to giving up smoking and drinking moderately.”

Elio has spent the last years expanding public health research and its educational output at Imperial. For example, the School now has over 100 Master’s students focusing on epidemiology, genomics and public health, and 130 PhD students, compared with 25 Master’s and 60 PhD students in 2008.

“Training the next generation of public health and primary care professionals is so important,

as it’s an opportunity to pass on our knowledge of preventative medicine. And, as we have so many international students, once they have finished their studies, they can take the knowledge back home with them, which is another way we contribute to the global picture of public health,” he says.

Elio is optimistic about the Government’s white paper on reforming the health service and describes it as an opportunity for improving the role of preventative medicine in primary care. “It potentially offers a new dawn for health-care, where health promotion and disease prevention could take a more active role,” he observes.

## Research

And there are signs that preventative medicine is already making advances. Professor Majid Ezzati, who works in the MRC-HPA Centre for Environment and Health in



the School of Public Health, has just published three papers in *The Lancet*, which look at all available global data to assess how body mass index (BMI), blood pressure and cholesterol changed between 1980 and 2008. They revealed that average levels of total blood cholesterol fell in the countries of North America, Australasia and Europe, but increased in East and South East Asia and the Pacific region.

Professor Ezzati said: “It’s heartening that many countries have successfully reduced blood pressure and cholesterol despite rising BMI. The findings are an opportunity to implement policies that lead to healthier diets, especially lower salt intake, at all levels of economic development,



as well as looking at how we improve detection and control through the primary health-care system.”

Developing a clear picture of society is really important for understanding how to tackle disease and this is an area that Elio is particularly passionate about. Before he came to Imperial, Elio initiated the European Prospective Investigation into Cancer and Nutrition (EPIC) project, which collected data and blood samples from 500,000 subjects across 26 centres in 10 European countries and was designed to investigate the relationships between diet, nutritional status, metabolic and genetic factors, and the incidence of cancer and chronic diseases. Elio has continued this work at Imperial, expanding the initiative to find out more about other areas of health, including diabetes, cardiovascular and neurodegenerative diseases.

“It’s heartening that many countries have successfully reduced blood pressure and cholesterol despite rising BMI”

#### Tackling diseases

After prevention, the second key aim for the School is finding ways to limit disease. Early diagnosis is vital and can be achieved for conditions such as cervical and breast cancers using screening techniques. “Trying to beat diseases at an early stage and improving primary care helps to avoid complications later on down the line, which can become costly, and helps to prevent suffering,” says Elio.

An example of work being done to tackle the spread of disease within the western world is by Professor Brian Spratt, Chair in Molecular Microbiology



in the School of Public Health, who works with DNA sequencing technology that supports the genome sequencing of thousands of bacterial species, in particular the hospital superbug, MRSA. He explains: “This technology is still developing but it is already providing the information needed to improve infection control, for example by tracking with unparalleled precision the spread of MRSA strains within and between hospitals and nursing homes. The current challenge is how to make the best use of these data to track the spread of pathogens and, at a more basic level, to integrate large-scale bacterial genome sequencing with molecular epidemiology and population and evolutionary biology.”

Tropical diseases are another key research focus for the School of Public Health, in particular developing the most effective and affordable treatments by vaccination or traditional medicine. Elio notes that, although infectious diseases such as polio, are no longer a major health problem for us in the western world, a huge effort is needed to tackle problems in developing countries. “We have big battles to fight and creating affordable treatments to help these countries is a major driver for us,” he says.

#### Looking forward

Elio says that he will know that he has done what he set out to achieve when he can see things changing at a population level. The only problem with preventative strategies is that they are hard to quantify, making it difficult to prove to the public that they are worth investing in. “While you’ll never know the name of the person who isn’t going to get the cancer, as they have stopped smoking, or who isn’t going to get poliomyelitis, as they have been vaccinated, in the long term, preventative intervention will save society money and, most importantly, it will prevent people from suffering – and that is the ultimate aim of public health,” he says.

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT



#### GET TO KNOW

### The School of Public Health

The School of Public Health comprises the former Division of Epidemiology, Public Health and Primary Care (Departments of Epidemiology and Biostatistics, Primary Care and Public Health, and Infectious Disease Epidemiology) along with the Department of Genetics of Common Diseases, and the biostatistical section of the Imperial Clinical Trials Unit.

The School also hosts two MRC centres:

- MRC Centre for Outbreak Analysis and Modelling
- MRC-HPA Centre for Environment and Health

The School has strong structural links with the Imperial College Healthcare NHS Trust via the Interventional Public Health Clinical Programme Group.



## Preventing attack!

**“Never trust anyone, never give anything away and never respond without thinking twice – you learn to be pretty cynical in my job,” says Chris Roberts, IT Security Manager. Reporter discovers what ICT are doing to protect the 20,000 staff and students using Imperial’s computer network.**

Protecting information at a university is a unique IT security challenge and can be much harder than in the corporate world, where companies can identify more clearly whether data is sensitive and needs extra protection. “In a research environment, often the only person who knows if the data is sensitive is the owner,” explains Chris. An additional challenge for ICT is that staff and students need to connect many types of device to the network, and researchers use the network to conduct projects with collaborators across the world, which means that ICT has to work even harder, to prevent

security threats from attacking the College network.

Chris is aware of the tension between protecting the network and the College’s mission. “Research-led universities like Imperial rely on collaborations, so we don’t want to put up barriers to the free flow of ideas – our role is to give everyone a set of tools, and the knowledge to carry out their work and research safely,” he says.

Chris heads up a team of four, part of whose role is to advise on protecting sensitive information – from researchers conducting clinical trials, who need to protect patient identifiers, to staff who have responsibility for setting exam questions and need to keep them out of students’ reach.

Experience has taught Chris that there is no such thing as being too careful

with sensitive information. He points to the University of East Anglia (UEA) as a high profile example of what can happen to the reputation of an institution if information is released. In 2009, academics at the UEA Climatic Research Unit were targeted by an external group of hackers, who wanted to discredit the idea of climate change.

The hackers got into academics’ private emails and leaked conversations between the researchers to the media. Out of context, the emails brought

into question the integrity of the climate change research, and created a media and political storm.

Chris advises everyone to think twice before sending an email. “Always consider what the repercussions could be if it gets in the hands of the wrong person,” he warns.

“Worryingly, criminals are using more and more sophisticated methods”

### Spam and phishing

Another element of Chris’s role is to develop systems to keep hackers and potential viruses out of the network, with email being the most common way these attacks are delivered. This is a big task, as the College receives up to three million items of spam, including viruses and phishing scams, every day. In the past, these email scams could be quite amateurish, but Chris warns: “Email scams are big business. It only takes a handful of people to respond with their details, to make sending out millions of messages financially worthwhile.”

“Worryingly, criminals are using more and more sophisticated methods,” Chris notes. He explains that traditional phishing scams of emails asking you to respond or send money have evolved, and today they send links to websites, which infect your PC with a virus or look identical to those of UK banks and ask you to verify your details. ICT filters all incoming email to try to detect and block potential phishing attacks, and can sometimes intercept replies to known phishing emails. Those who respond to phishing scams could have their email hacked and suffer financial losses, as many scams target personal bank accounts. “Remember that banks will never ask you to log on or give personal information via email. Keep this principle in mind and you’ll be safe,” Chris advises.

— EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT

For more information on ICT visit: [www.imperial.ac.uk/ict/servicedesk](http://www.imperial.ac.uk/ict/servicedesk)



### Security awareness

Chris’ top tips to keep you and your computer safe

#### Keep your password safe

You should never write down your username and password, or give them to colleagues. If someone needs to see your emails or calendar, use delegate access instead.

#### Be aware of College policies

Your use of IT at the College is governed by the Information Systems Security Policy and particularly the Conditions of Use of IT Facilities. See: <http://bit.ly/aLuHxa>

#### Protect sensitive data

Always ensure that sensitive data is encrypted, especially when stored on portable devices, such as USB sticks and laptops.

#### Internet privacy

Social networking sites, such as Facebook, allow you to share information about yourself. However any information you post may be accessible to a wider audience than your immediate contacts. Always ensure that you review the privacy settings for your account when signing up.

For more tips visit: [www3.imperial.ac.uk/ict/secureaware](http://www3.imperial.ac.uk/ict/secureaware)

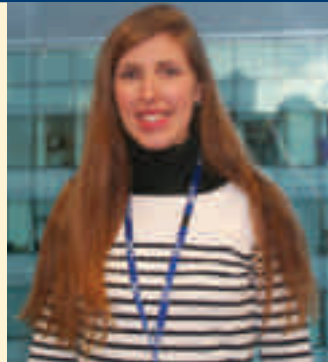
# inside

## story

### mini profile

## Heather Harrington

Reporter speaks to Research Associate, Dr Heather Harrington (Life Sciences), about an important cellular discovery she made during her PhD in applied mathematics.



### How are you using the maths skills you gained in your PhD?

Over the years, the technology used in biology has become increasingly sophisticated – experimentalists are able to observe single cells and some of the phenomena inside them. This has led to a wealth of information highlighting the fact that biological systems are incredibly complex. Sometimes observations are puzzling and difficult to explain, so using a mathematical framework enables us to develop models about the interactions that take place within cells and make predictions.

### You had a paper published last year in *PLoS Computational Biology* – what was it about?

I worked on a research project in collaboration with Ken Ho, a graduate student at New York University. Our paper focused on ‘apoptosis’, or cell suicide, which is an important function in the body. The balancing act of apoptosis is vital because if too many cells die, it can lead to neurodegenerative disorders such as Parkinson’s and Alzheimer’s. If not enough cells

die, it can lead to cancer. Our research used mathematical models to investigate the apoptosis activation in a cell. Through this approach we predicted the existence of a mechanism that regulates the process responsible for determining the point at which the cells choose to die.

### What was special about the publication of your paper?

*PLoS Computational Biology* rarely accepts papers without experimental data; however, as we proposed a novel mechanism, and suggested methods for testing the mathematical model as experimental data becomes available, the highly regarded journal published our research, much to our delight.

### What are your hopes for the future of your research?

We are collaborating with experimentalists to use mutant cells to verify the mechanism we predicted; in the long-term it would be amazing if this knowledge could be used in therapies to target cancerous cells in humans.

—EMILY ROSS, COMMUNICATIONS AND DEVELOPMENT



## Imperial insights

Ms Yin Yin Teo, Assistant Director of Corporate Communications, Nanyang Technological University (NTU), pictured far right, visited the College for a week in January to support her work on the development of the Lee Kong Chian School of Medicine in Singapore by learning how Imperial trains doctors. She describes her experiences:

“When we first arrived at the South Kensington Campus, we were excited by the vibrancy of the College. We could see the buzz of activity in the modern and colourful glass buildings, standing alongside the charming, traditional English architecture.

Like the mix of the old and the new buildings, the joint medical degree offered by NTU and Imperial will infuse the traditional science of medicine with modern e-learning and advances in medical technologies, putting the patient’s individual needs at the centre of all care.

Together with Dr Vivien Chiong, NTU’s Director of Communications, and Ms Chang Ai-Lien, a correspondent at *The Straits Times*, the English daily in Singapore, we heard about Imperial’s comprehensive training which aims to produce highly skilled doctors, well-versed in



technology and communications.

We were kept on our toes throughout our trip, listening to student presentations on medical case studies, checking out anatomy classes and laboratories, touring the pathology museum and meeting Singaporean medical students.

We also learnt how Imperial took e-learning to new heights with interactive modules and virtual worlds, where students can learn and test their knowledge at their own pace. Imperial’s e-repository of information will

be a wealth of medical knowledge for the future students of the Lee Kong Chian School of Medicine.

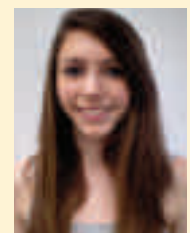
Visits to the Charing Cross and St Mary’s Campuses allowed us to see the type of clinical training received by medical students as well as the medical innovations pioneered by Imperial. We had the opportunity to see portable surgery theatres, and students could practise with sophisticated mannequins that wheeze and even simulate giving birth!”

“Sophisticated mannequins wheeze and even simulate giving birth!”

### ► SCIENCE FROM SCRATCH

As explained by Chloe McIvor, MSc Science Communication

## Living fossil



Despite being a contradiction in terms, the phrase ‘living fossil’ is commonly used by biologists to describe some of the most fascinating products of evolution.

The term is an informal one, so its definition is not without dispute.

However, it is generally used to describe a living species whose close relatives are now all extinct, with any recognised as being related known only from fossils. This means that such species are commonly seen to be ‘evolutionary oddities’, often hitting the science headlines when a new one is discovered. Even though living fossils tend to be survivors of mass extinction events, many haven’t changed much in appearance for millions of years. One classic example is the coelacanth, a prehistoric-looking fish previously thought to have died out 70 million years ago. That is until one was caught off the east coast of South Africa in 1938, dramatically altering the status quo within evolutionary biology.

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

Student blogger Sang Jin on  
**Why international students study hard:**

“International students on average pay £21,000 for their education. The total cost of studying in the UK increases upon the addition of accommodation costs, which costs up to £7,000. Students spend nine months or 270 days studying in the UK. This is approximately 300 days. If we divided the total cost by the total number of days’ study, it would be approximately £100 a day. If an international student were to not spend his day wisely, he would be wasting £100 a day. That is 50 sandwiches from the JCR deli bar and 13 meals from Eastside Bar. Can we afford to waste our day considering these costs? I highly doubt it.”

[www.imperial.ac.uk/campus\\_life/studentblogs](http://www.imperial.ac.uk/campus_life/studentblogs)



blog  
SPOT

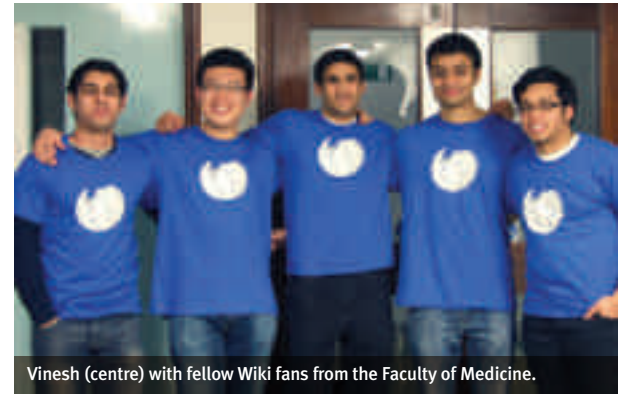
## Seeking fellow wikipedians

Vinesh Patel, a fifth year medical student, describes his plan to establish a Wikipedia Society at Imperial.

“Wikipedia, the world’s fourth most visited website, celebrated its 10th anniversary last month. Debate over the exact role it should play continues amongst academics, but as a site serving over 400 million users and offering information in over 250 different languages, it has cemented its place as a ‘go to’ resource.

Learning at Imperial, I have always used Wikipedia. Whether to orientate myself on a medical topic, to pick up useful references or to browse topics I find fascinating – Wikipedia is something I use every week. Last year it occurred to me that the fact that so many people at the College use Wikipedia could be put to good use.

After emailing Wikipedia administrators, attending London Wikipedia meetings and receiving



Vinesh (centre) with fellow Wiki fans from the Faculty of Medicine.

support from contacts at Imperial, I hope to found an Imperial Wikipedia Society – the first UK student Wikipedia society – by the end of February. Feedback from Imperial College Union suggested I should engage students and staff already editing Wikipedia, to demonstrate significant support for the society. My team and I are currently trying to find these elusive people on campus and to explain our vision. Alongside editing, I want to explore teaching using Wikipedia and

conduct research into Wikipedia’s use.

I have spoken to a range of Wikipedians outside Imperial, including a doctor, and two Imperial alumni. It’s been clear through these conversations that Wikipedia relies upon the altruistic dedication of its editors, who – like many teachers at College – seek to further the gift of knowledge in their chosen interest, for the love of information and willingness to share it.”

E-mail [vinesh.patel06@imperial.ac.uk](mailto:vinesh.patel06@imperial.ac.uk) to register your interest.

## Meeting Lewis Hamilton

At the end of last November, fourth year Mechanical Engineering student Vlad Kostadinov had the opportunity to put his questions to Formula One (F1) World Champion Lewis Hamilton at a special Q and A session. Here he describes his experience:

“The day started off at the Milton Keynes headquarters of Santander, where I met up with around 20 student representatives from universities throughout the UK. Almost all of the students were engineers and involved in Formula Student, a competition held annually at Silverstone, in which students design, make and race a single-seat racing car whilst competing against other universities from across the world. After a plenary discussion of common themes and problems, such as difficulties with engine reliability, how best to eke out sponsorship deals and what lessons were

learnt from the last Formula Student event, we were briefed on the rest of the day’s proceedings.

Everyone was delighted to learn that not only would we be given the chance to ask questions directly of Lewis but that some of the discussion would also be filmed by the BBC. Just before Lewis’s appearance, the cameras started rolling and the excitement in the room grew exponentially until the door opened and there, to tremendous applause, stood Lewis Hamilton in full race overalls. The questions began flowing, with each one touching on very different aspects of Lewis’s life and career, from how important his engineering team is to his performance, to what a typical race weekend is like, how he enjoys

relaxing, what makes a good racing driver and how he trains to become faster.

One representative asked about the relationship between the driver and the race engineer and

how this would change if the engineer were a woman. Lewis’s response was that it’s only a matter of time before there are female F1 race engineers and female drivers. The question I posed explored

the relationship between the team and the driver, and how big a part this plays in the outcome on race day. Lewis’s response was music to the ears of the engineers in the room, as he asserted that he would be nothing without his team and that fostering good relations with them is something he constantly strives for, making regular visits to the team base and factory.”

“it’s only a matter of time before there are women F1 race engineers and women drivers”



Vlad Kostadinov (far left) posing questions to Lewis Hamilton (right).



Professor Sunil Shaunak started at Imperial in 1985 as a junior doctor at the Royal Postgraduate Medical School, which became part of Imperial in 1997, forming the Hammersmith Campus. He is now Professor of Infectious Diseases.

**What attracted you to a career researching infectious diseases?**

In the mid-1980s young people started dying of opportunistic infections and no one knew why. I remember looking down a microscope and seeing HIV when it was first discovered. This early exposure to discovery has made me passionate about translating research advances into useful clinical benefits.

**What motivated you to study immune responses?**

I have spent 25 years treating patients with antibiotics. I have now realised that I should also be helping the patient's immune system to fight infection.

**INVENTOR'S CORNER**

**Helping patients fight infection**

**What have you developed?**

Molecules for dampening excessive inflammation, which is the body's way of protecting itself from infections. When inflammation becomes excessive, it leads to massive tissue injury. We have started the long process of commercialising our findings into medicines by forming the spin-out company Indigix. The drugs will control inflammation so it is beneficial to the body rather than harmful.

**“You have to be passionate; if you quit, your idea will die with you”**

**When would a patient take this drug?**

In the early stages of an infection and together with antibiotics. This approach will kill the bug and also control the patient's immune response.

**What is the most exciting aspect of what you do?**

It's those wonderful light bulb moments! You're doing your day to day stuff and suddenly you find the missing link. I've had several of these experiences and have gone on to file eleven patents as an inventor.

**What advice would you give those having their 'light bulb moment'?**

In the beginning, it's like chasing a rainbow. You will have many conversations trying to convince people that your idea can change the world. You will have to be passionate; if you quit, your idea will die with you. Don't worry what the text books say because they are yesterday's ideas. You should be in the business of turning today's dreams into tomorrow's ideas.

—ANOUSHKA WARDEN, IMPERIAL INNOVATIONS

*If you have an idea with commercial potential, or for further information about Imperial Innovations, visit: [www.imperialinnovations.co.uk](http://www.imperialinnovations.co.uk)*

**course review**



*By course attendee Emma Wise, Postdoctoral Research Associate, Leukocyte Biology, Respiratory Sciences, NHLI*

**Building on the past four years – what next?**

**1 What did the course cover?**

The course was very dynamic and activity-based with lots of opportunities for group work. Activities ranged from academic CV bingo (where we had to cross reference our CVs to see if they matched the ideal in terms of content and format) to discussions about applying for academic and non-academic roles. We also pretended to be on an interview panel, and decided who was going to get the job.

**2 What did you learn from the course?**

I learnt that postdocs have lots of career pathways and options open to us. I, personally, found the course to be thought-provoking; it raised a lot of questions for me regarding how I want my career to develop. Now that I have the questions, I can find answers.

**3 Would you recommend the course and why?**

Yes, every postdoc should go on it! As postdocs we often have very busy day-to-day lifestyles owing to the demands of our research, which leaves little room for personal career reflection. The course was an invaluable opportunity to take a step back and look at my achievements and consider where to go next.

*For more information visit: [www.imperial.ac.uk/staffdevelopment/postdocs1/workshops/residential](http://www.imperial.ac.uk/staffdevelopment/postdocs1/workshops/residential)*

**VOX POP**

**What do you do to keep healthy during the week?**



“I run a couple of times a week, if I can, or go swimming in *Ethos*. I try to keep on a healthy diet and I think that Imperial has really helped me with this. Because of the variety of food on offer, I tend to make healthy choices.”

MICHAEL TARASIOU, MASTER'S STUDENT (CIVIL AND ENVIRONMENTAL ENGINEERING)



“I go to the gym quite a lot, typically three or four times a week, as I find that it helps me relax after a hard day at work. It's a great way to meet up with friends and socialise, at the same time as keeping healthy. I also go running in Hyde Park with friends. When I was an undergraduate at Imperial, I used to go swimming with friends on a Saturday morning – we'd swim and go to the jacuzzi and sauna, but then undo all our good work by enjoying chips for lunch!”

AENEAS WIENER, PHD STUDENT (PHYSICS)



“I try to go to the gym a couple of days a week. It varies; I go through phases of going quite a bit and then not going at all. When I do go to the gym, I like to do cardio workouts and go on the treadmill and the cross-trainer. I also go to classes occasionally, such as Pilates, which is quite a good complement to the cardio exercise; it stretches and tones your muscles and is also quite relaxing – a nice thing to do on a Friday.”

POLLY MEUDELL, LEGAL SERVICES OFFICER (COLLEGE HEADQUARTERS)

## obituaries



### MANNY LEHMAN

Professor Manny Lehman, Imperial's first Head of the Department of Computing, died on 29 December 2010 in Jerusalem, Israel.

Professor Susan Eisenbach, current Head of the Department of Computing, pays tribute: "Manny first

came to Imperial in the 1950s as an undergraduate to study in the Department of Mathematics, which was then a pioneer in the design and implementation of one of the first computers, the Imperial College Computing Engine (ICCE I). After getting a degree, Manny went on to design the arithmetic and logic unit – the 'brain' within any computer – for ICCE II, the planned electronic valve successor to the ICCE I, for his PhD. Manny went on to hold positions at Ferranti, the Israeli Ministry of Defence and IBM.

Manny returned to Imperial in 1972, joining the two year old Department of Computing and Control as Head of its Computing Section. In 1979, the Department of Computing came into existence and Manny became its first Head, a post he held from 1979–84. In 1989 he was made a Fellow of the Royal Academy of Engineering.

Manny's vision was to develop a department with a strong engineering focus and his influence is visible to this day. When Manny arrived, Imperial taught only one computing programme, the MSc in Computing Science. Under his leadership, our first three and four-year undergraduate degree programmes were developed. He also brought research funding into the Department and set up the Imperial Software Technology Company. Manny remained in the Department until 2002.

Manny is survived by his wife, Chava, and his children, grandchildren and great-grandchildren. He will be very much missed."

To read the full obituary and to share your stories of Professor Lehman visit: <http://bit.ly/h3OCcL>



## A tribute to Martin, *Big Issue* seller

Imperial staff and students learnt with sadness of the recent death of Martin, who had been selling copies of the *Big Issue* close to the South Kensington Campus for approximately 10 years. Chatting to passers by in the subway from South Kensington tube station or on Exhibition Road, he was a familiar face to those who lived, or worked in the local area.

Martin was born in 1941 in Edinburgh and studied at Aberdeen University. He spent much of his career teaching English and Latin, and helped to educate his three nephews.

Martin died of a heart attack at home on Monday 31 January. His ashes will be scattered in the rose garden in Hyde Park, as he requested in his will.

A friend of his, Bridget, wrote in a notice on Exhibition Road: "To all his regulars and people that knew him, you all became part of his extended family."

Share your memories of Martin: [www3.imperial.ac.uk/news/martin](http://www3.imperial.ac.uk/news/martin)

long service

Reporter features staff who have given many years of service to the College. Staff listed below celebrate anniversaries in the period 6 January–29 March. Data is supplied by HR and is correct at the time of going to press.

### 20 years

- Professor Andrew Bush, Professor of Paediatric Respiriology (NHLI)
- Mr Ralph Dickerson, Utilities and Database Administrator (Finance)
- Professor Yi-Ke Guo, Professor of Computing Science (Computing)
- Mrs Zona May, Financial Accountant (Finance)
- Mr Mark Orphan, Technician (Medicine)
- Ms Linda Romain, PA to Dean of Students (Education Quality)

### 40 years

- Mrs Margaret Cunningham, Senior Lecturer (Computing) and College Tutor

## CLARIFICATIONS AND CORRECTIONS

Please note that in the Awards and Honours column on page 4 of issue 228, printed on 20 January 2011, a picture of PhD student Stephen Holland (Medicine) was mistakenly placed alongside the award and honour for Dr Simon Philbin, Programme Director for the Institute of Shock Physics. Also in the same section, Evgenia Petrides was described as a medical student. She is, however, taking a BSc in Biomedical Science, and the project was part of her final year.

## PHOTO EXPO

Imperial medical students and senior members of the Faculty of Medicine at an event held on 26 January at the House of Lords to discuss the Kashmir International Relief Fund's project to develop maternal healthcare services in Azad Kashmir.

Keep your eyes peeled for the next issue of Reporter, published on 3 March, for the full story.



## speak out

### Story ideas?

We welcome contributions from across the College. The next publication day is 3 March. Reporter is published every three weeks during term time in print and online at [www.imperial.ac.uk/reporter](http://www.imperial.ac.uk/reporter)

Contact Emily Ross:

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

☎ +44 (0)20 7594 6715



## Imperial Blast research makes an impact

On 9 December 2010, the newly formed, cross-faculty group called Imperial Blast Biomechanics and Biophysics organised a morning of presentations and discussions for funders and beneficiaries. With the support of military charities and of the UK's *Defence Science and Technology Laboratory*, Imperial Blast has managed to design, build and house an anti-vehicle,

underbelly, blast-injury simulator (AnUBIS), pictured above. It is able to simulate injuries sustained by vehicle occupants by impacting legs of cadavers. Such attacks have been the insurgents' weapon of choice in the battlefields of Iraq and Afghanistan.

Dr Spyros Masouros (Bioengineering), the senior post-doc leading the engineering focus of Imperial Blast, reports on the event:

"The day commenced with an introduction by the Rector, Sir Keith O'Nions. Following that, Maj Arul Ramasamy (PhD student, Bioengineering) described the poor clinical outcome of injuries associated with blast-related events, based on his experiences in the battlefield and our published work.

Then, PhD student Chiara Bo (Physics) and I presented the clinical, experimental and computational work that was

conducted by our group in 2010, and explained how it has been disseminated to the scientific community and to government organisations.

This stimulated discussions with our visitors at Prince's Gardens that continued during a tour of the Musculoskeletal Mechanics Lab in the Department of Bioengineering. There, Dr Tim Bonner (Bioengineering), who is also a serving

medical officer in the Royal Navy with experience of trauma management from his operational deployments to warzones, such as Iraq, explained some of the work done in the lab, while PhD student Nic Newell (Bioengineering) explained how AnUBIS operates.

The morning ended with a presentation from Professor Anthony Bull (Bioengineering) on the importance of multidisciplinary working at Imperial and how this is being harnessed for military and civilian benefit. The discussions that followed over lunch gave us the feeling that our visitors understood the importance of the scientific findings, the uniqueness of this collaborative grouping, and our ability to conduct the work and disseminate it through multiple channels to make an impact.

Hopefully, this event will be the first of many for Imperial Blast."

“Such attacks have been the insurgents' weapon of choice in Iraq and Afghanistan”

## Welcome new starters

Dr Martyna Adamowicz-Brice, Clinical Sciences

Dr Ivano Benedetti, Aeronautics

Mr Shriram Bhosle, Clinical Sciences

Ms Leica Briskey, Clinical Sciences

Dr Andres Clemente Blanco, Clinical Sciences

Miss Bridgette Cooper, Physics

Miss Rachel Crooks, Business School

Mr John De Felice, Medicine

Dr Sarah Filippi, Life Sciences

Mr Tankut Guney, Medicine

Ms Amanda Hajjawi, Medicine

Miss Josie Howard, Mechanical Engineering

Dr Thilanga Iddamal goda, Medicine

Dr Manohara Kannangara Batuwitige, Computing

Ms Anna Leczkowska, Chemistry

Miss Feng Li, Clinical Sciences

Mr Richard Martin, Engineering

Miss Jenny McCullough, Library Services

Ms Andrea McDonald, Public Health

Dr Katarina Miljkovic, ESE

Mr Samuel Mitchell, Chemistry

Dr Ahsan Nazir, Physics

Miss Neelam Nigah, Public Health

Miss Laura Patel, Chemistry

Ms Katharine Peel, Faculty of Medicine

Ms Katherine Phillips, Medicine

Mr Sam Rudwick, Library Services

Ms Marieta Ruseva, Medicine

Mrs Harpal Sandhu, ICT

Dr Jennifer Sattaur, Aeronautics

Dr Remigiusz Serwa, Chemistry

Mrs Elisabeth Smithson, Library Services

## Farewell moving on

Dr Joanne Athos, Public Health

Dr Paul Beavis, Kennedy Institute

Dr George Bendo, Physics (5 years)

Dr Cesar Berruoco, Chemical Engineering and Chemical Technology

Dr Jonathan Bielby, Public Health

Miss Bianca Bulmer-Thomas, Medicine

Dr Charlene Calvert, NHLI

Miss Joanna Chamiola, Catering Services

Miss Vanessa da Luz, Catering Services

Dr Eugenia Dahm-Vicker, Chemistry

Dr Marie-Alice Deville, Public Health

Mr Michael Griffiths, Business School (5 years)

Dr Andrew Ireson, Civil and Environmental Engineering

Mr Jun Jiao, Computing

Mrs Emma Jones, Communications and Development

Dr Nazila Kamaly, Surgery and Cancer

Dr Joe Lee, Civil and Environmental Engineering

Mr Andrew Mitchell, ESE

Dr Kayhan Nouri-Aria, NHLI (14 years)

Miss Alpa Patel, Clinical Sciences

Mrs Manasi Ramanna, EEE

Dr Laurent Risser, Mathematical Sciences

Mrs Michelle Ryder, Life Sciences

Dr Alice Shia, Life Sciences

Dr Jamshid Sorouri Khorashad, Medicine

Mr Michael Tutt, Faculty of Medicine

Mr Thomas von Erlach, Materials

This data is supplied by HR and covers the period 6–23 January. This data was correct at the time of going to press.



14 FEBRUARY ▶ LECTURE  
**School of Public Health launch**

Imperial's School of Public Health aims to address the major global health challenges of the twenty-first century, including obesity, cancer, heart disease, dementia and infectious and parasitic disease. The Secretary of State

for Health, Andrew Lansley, will be a guest speaker at its official launch event, and broadcaster Vivienne Parry will chair panel sessions on chronic and infectious diseases with international speakers from the World Health Organisation, the University of Cambridge and Harvard University. The event is open to anyone with an interest in public health, from students to clinicians.



2 MARCH ▶ INAUGURAL LECTURE  
**Lies, damned lies and light fantastic**

Throughout his career as an optical physicist, Professor Martin McCall has struggled to understand physicist James Clerk Maxwell's beautiful equations describing

the electromagnetic field. He has discovered that many of the things he learned as an undergraduate at Imperial were, if not exactly lies, then not entirely the whole truth either. As Professor McCall will discuss in his talk, light doesn't always travel in straight lines at constant speed, or even bend according to the laws of refraction he learned at school.

16 FEBRUARY ▶ SEMINAR

**Structural basis for the subunit assembly of the anaphase promoting complex**



Professor David Barford, *Institute of Cancer Research*

16 FEBRUARY ▶ SEMINAR

**Mechanotransduction in vascular endothelium: experiments and computational models**

Professor Abdul Barakat, *École Polytechnique, France*

17 FEBRUARY ▶ TALK

**The visualisation of salient features in complex backgrounds**

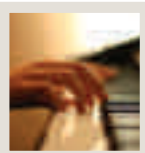
Dr Karin Nordström, *Uppsala University*

17 FEBRUARY

▶ MUSIC

**Lunchtime concert**

Alvin Moisey, *piano*



23 FEBRUARY ▶ SEMINAR

**Cell fate uncertainties in developmental landscapes**

Professor Alfonso Martinez Arias, *University of Cambridge*

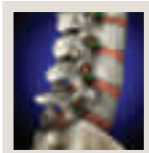
1 MARCH ▶ INAUGURAL LECTURE

**Oil exploration in the Arctic: strategic resource or environmental and political minefield?**

Professor Allastair Fraser, *(Earth Science and Engineering)*

2 MARCH ▶ SEMINAR

**Syringomyelia: a neurological malady amenable to engineering simulation**



Associate Professor Chris Bertram, *University of New South Wales*

9 MARCH ▶ SEMINAR

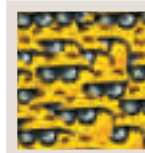
**Human joint and musculoskeletal modelling**

Professor Frédéric Marin, *University of Technology of Compiègne*

10 MARCH ▶ TALK

**Adventures through a geek nation**

Angela Saini, *science journalist*



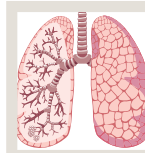
16 MARCH ▶ SEMINAR

**Understanding how cell-generated forces shape tissue**

Professor Karl Kadler, *University of Manchester*

16 MARCH ▶ LECTURE

**What makes a good lung? The structural basis of pulmonary gas exchange**



Emeritus Professor Ewald Weibel, *University of Berne*

16 MARCH ▶ TALK

**Wizards and Luddites: Science, Churchill and the Second World War**

Professor David Edgerton, *(Centre for History of Science, Technology and Medicine)*

MEET THE READER



**Andrew Sellick, Postal Officer (Facilities Management and Property Services)**

**What are you doing in the picture?**

It's 8.00 on Monday and I'm sorting the post into different departments for the South Ken Campus. We receive thousands of items – students in particular get lots of letters and food parcels. Any suspicious items we scan using an X-ray machine – we've had a few dodgy ones like a plastic gun!

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

I'd like to spend a day in the lab with a professor doing research into diseases like cancer. It would also be cool to interview some famous people from outside Imperial and get their opinions on the research we are doing at the College.

**Who would be your cover star?**

I'd like to see John Ryan from the Fire Department on the cover. The Fire Department does a really important job, yet we don't hear much about what it does.

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

take note

**National Science and Engineering Week**

National Science and Engineering Week takes place this year from 11–20 March and will be a great opportunity to engage the public with your research. The College hopes to publish a programme of events which staff are taking part in.



Whether you're talking to schoolchildren or running a science show, please pass on your event details to Katie Weeks: [k.weeks@imperial.ac.uk](mailto:k.weeks@imperial.ac.uk)

Stay in the loop

✉ Visit [www.imperial.ac.uk/events](http://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](mailto:events@imperial.ac.uk)

