



## Designing a brighter future

How the Grantham Institute's latest recruits are tackling the challenges of our changing world  **CENTRE PAGES**



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Support and career guidance for female academics

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## editorial

Editor Emily Ross  
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This month we are celebrating the 200th edition of *Reporter*. From its humble beginnings in 1995 as a two-page black and white handout, *Reporter* has grown alongside the College and is now a 16-page colour publication, packed full of stories on the people, ideas, events and breakthroughs which make up Imperial. You are an indispensable part of *Reporter* and I enjoy receiving your emails and phone calls, telling me about your achievements, what's going on in your department and what you'd like to see more of in the newspaper. We always strive to cover your stories so please continue to keep in touch.

Thanks to everyone who has got involved in *Reporter's* 200 issues to date. I look forward to working with you in the future.

## Helping scientists train for a career in science communication

Encouraging young scientists to take up a career in the broadcast industry is the aim behind two new studentships for the MSc in Science Media Production run by the Department of Humanities. Each studentship offers a grant to cover tuition fees, plus £18,000 to cover living expenses over the 12-month course and a six-month internship in a broadcast organisation on completion of the course.



The scheme is funded by the Wellcome Trust as part of its public engagement programme.

Dr Stephen Webster, acting director of the Science Communication Group, says: "These new studentships will make it possible for trained scientists to truly become broadcast professionals. Good science communication requires expertise both in science and in media skills. You just have to look at that 2007 documentary *The Great Global Warming Swindle*, which denied anthropogenic climate change. What a distortion of science and scientists!"

The MSc programme is focused on audio-visual production and students have the opportunity to research, script, shoot and edit their own programme based on their ideas for a television or radio documentary.

Applicants should have a PhD, or already be practising scientists. The deadline for applications is 27 February 2009.

—NAOMI WESTON, COMMUNICATIONS

► For more information please visit: [www.imperial.ac.uk/humanities/sciencecommunicationgroup/masters/funding](http://www.imperial.ac.uk/humanities/sciencecommunicationgroup/masters/funding)

## NEWS update

# RAE results

Imperial is home to the greatest concentration of research rated world-leading and internationally excellent amongst all UK multi-faculty universities, according to the 2008 Research Assessment Exercise (RAE) results published on 18 December.

Seventy-three per cent of the College's staff had their research judged as world-leading or internationally excellent (4\* and 3\*), the highest percentage of all UK multi-faculty universities.

The College also has six of the UK's top-rated research areas (4\*): Chemical Engineering; Civil Engineering; Epidemiology; Mechanical, Aeronautical and Manufacturing Engineering; History; and Pure Mathematics.

Professor Jeff Magee, Deputy Principal of Research for the Faculty of Engineering, said: "I am pleased that the RAE rating for departments within the Faculty of Engineering has recognised our leadership in research. This has been achieved without compromising our commitment to excellence in teaching, or sacrificing our engagement with the wider academic and industrial community."

Professor Maggie Dallman, Principal of the Faculty of Natural Sciences, said: "It's fantastic to see that researchers from right across the

Faculty – from evolutionary biology, through maths and chemistry, to astrophysics – have performed so well in all the core disciplines that not only contribute to our fundamental knowledge base, but also underpin our applied and translational work."

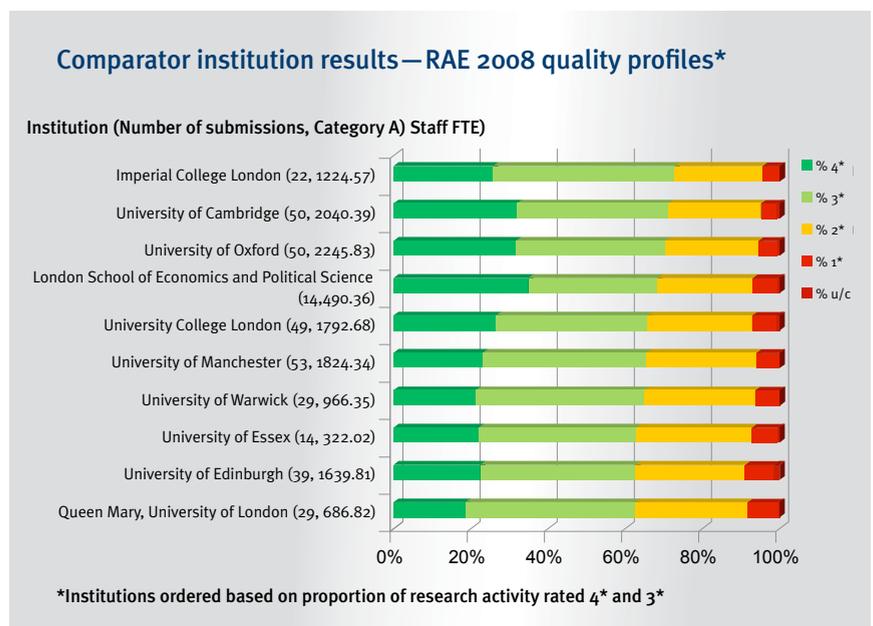
Professor Stephen Smith, Principal of the Faculty of Medicine, said: "I am very pleased to see 71 per cent of our medical research being rated as world-leading or internationally excellent. This is particularly impressive when you consider that we submitted over 90 per cent of our research staff. I would like to offer my congratulations and my thanks to the Faculty's staff for all their hard work."

Professor David Begg, Principal of the Business School, said: "The Business School is thrilled to have come second nationally in the RAE, ahead of both Cambridge and Oxford, and to be within the top handful of units of assessment within Imperial. Having recently been included explicitly in Imperial's mission statement, we are delighted to have it confirmed independently that our research is fully up to the Imperial standard."

—ABIGAIL SMITH, COMMUNICATIONS

► For more information visit: [www3.imperial.ac.uk/rae](http://www3.imperial.ac.uk/rae)

→ This chart shows how Imperial compares to the top UK institutions:



## Faculty of Medicine appointments

A number of staff changes in the Faculty of Medicine have been announced in the last month.

Professor Jonathan Weber, formerly Head of the Division of Medicine, has



been appointed Director of Research and Development for the Faculty of Medicine.

Professor Weber (pictured above) is responsible for research strategy, governance and delivery in respect of the Academic Health Science Centre (AHSC), reporting to the Principal of the Faculty. This role complements his existing appointment as Director of Research for the Imperial College Healthcare NHS Trust, as part of the evolving AHSC structure.

In succession to Professor Weber, Professor Gavin



Screaton (pictured left) has accepted appointment as Head of the Division of

Medicine. Professor Screaton currently holds the Chair in Medicine, and is Deputy Head of the Division. His research programme is based upon the study of the immunology of

infectious disease with particular respect to dengue virus infection. He is also a Fellow of the Academy of Medical Sciences.



Professor Michael Schneider (pictured above) has accepted appointment as Head of Division for the National Heart and Lung Institute. Professor Schneider succeeds Professor Sir Anthony Newman Taylor, following Sir Anthony's appointment as Deputy Principal of the Faculty of Medicine from 1 October 2008.

Professor William Cookson (pictured below) has accepted appointment as



Associate Head of Division, National Heart and Lung Institute, and as Campus

Dean for the Royal Brompton Campus. Professor Cookson has been Professor of Respiratory Genetics at Imperial since 2004, and was previously Professor of Human Genetics at the University of Oxford. His research focuses on increasing understanding of the genetic causes of asthma and eczema.

## New programme to support women postdocs

Building confidence among female academic staff is one of the aims of the Springboard women's development course, which twenty postdoctoral women celebrated completing in December, at an event hosted by the Rector.

Springboard was introduced to the College in September 2008. It seeks to help female staff in the competitive academic environment, where they are still outnumbered by men.

The Springboard course involved a full day of activities each month and combined both discussion and interactive activities such as role playing to practise assertiveness skills.



Participants received guidance and support to assist them in identifying goals and strengths and dealing with stress and pressure. The course also provided networking

opportunities aimed at helping participants to overcome the isolation that many women researchers report experiencing.

Dr Liz Elvidge, Development Manager at the College, set up the programme. She said: "Springboard enables women from different disciplines but at the same career stage to discuss issues confidentially and in a supportive environment."

— NAOMI WESTON, COMMUNICATIONS

► Visit: [www.imperial.ac.uk/staffdevelopment/postdocs](http://www.imperial.ac.uk/staffdevelopment/postdocs)

## Imperial staff scoop two OBEs

In the New Year's Honours, Professor Deborah Ashby (Epidemiology, Public Health and Primary Care), Chair in Medical Statistics and Clinical Trials, received an OBE for services to medicine. She said: "To work in an area that is intellectually stimulating and makes a difference to people's lives is a privilege; to have this recognised and honoured is the icing on the cake."

Robin Pitman, a consultant in the Institute for Security Science and Technology who joined the College this year, was also honoured with an OBE for his work with the Ministry of Defence.

### in brief

#### ► Spin-out sale

Imperial Innovations concluded the sale of spin-out company Thiakis to Wyeth Pharmaceuticals for up to £100 million in December. Thiakis was founded to build on Professor Steve Bloom's research, developing treatments to tackle obesity and associated diseases. The deal will bring Imperial Innovations substantial sums for shares and royalty payments, with the College receiving a significant proportion. Read more in a future *Reporter*.

#### ► Chinese delegates visit Grantham Institute

In December the Grantham Institute for Climate Change hosted a visit by Professor Lu Yongxiang, President of the Chinese Academy of Sciences, to meet leading academics and explore collaboration in climate-related research between these two world-leading institutions. In addition to climate change, Professor Lu Yongxiang also heard about Imperial's work in nanotechnology and sustainable energy technologies.

#### ► Business School and College Projects

Jon Tucker has accepted appointment as Director of Operations for the Business School in succession to Stephen Reid, and will take up this position in March 2009. Dr Neil Varey, currently Faculty Operating Officer for Engineering, will move to a newly created position as Programme Director responsible for delivering on a number of College-wide projects with effect from 1 February 2009.

#### ► CED, OED and Security

Terry Branch has been appointed Head of Security, in succession to Ceri Davies who has joined the Japanese pharmaceutical company Eisai. Dr Frank Harrison has been appointed acting Head of the Centre for Educational Development in succession to Heather Fry. Celeste Bright, Head of Major Projects, has been appointed Acting Director of Development and will head up the Office of Alumni and Development, in succession to Fiona Kirk.

## awards and honours

### Edgerton to present Royal Society lecture



Professor David Edgerton, Hans Rausing Professor in Imperial's Centre for the History of Science, Technology and Medicine, has been invited by the Royal Society to give the Wilkins-Bernal-Medawar Prize Lecture for 2009. The lecture, which takes place annually, is open to the public as well as the scientific community. It aims to celebrate the history, philosophy and social function of science.

### Dr Klaus Hellgardt is recognised for excellence



Dr Klaus Hellgardt, a Reader in Chemical Engineering, received the ExxonMobil Excellence in Teaching Award from the Royal Academy of Engineering at their annual awards ceremony in December 2008. The award recognises innovation and brilliance in teaching. He also won the Imperial Excellence in Teaching Award in November 2008.

### Careers Advisory Service provides quality service

Following a two-day external accreditation assessment visit, the Careers Advisory Service has gained the Matrix National Quality Standard for information, advice and



guidance services. The assessor said: "Students receive a consistently high quality service that,

despite the pressure on resources at certain times of the year, provides them with easy access to the support they need to move forward with their career, further study or research plans".

### Ocean modelling paper honoured



A group of researchers in the Applied Modelling and Computation Group (Earth Science and Engineering) has been awarded an honourable mention in the annual competition for the Outstanding Paper Award in the *Journal of Sedimentary Research*. The authors—Dr Martin Wells, Dr Peter Allison, Dr Matthew Piggott, Dr Gerard Gorman, Dr Gary Hampson, Professor Christopher Pain and Dr Fangxin Fang—used the computer-generated Imperial College Ocean Model to simulate tides in a sea that covered much of North America 300 million years ago. The research was supported by a grant from the Leverhulme Trust.

## Addiction, anxiety and Alzheimer's tackled by new Chair

Professor David Nutt (Neuroscience and Mental Health), a leading researcher who looks at how the brain behaves in people with health problems such as addiction, anxiety and Alzheimer's disease, has been announced as the new Edmond J. Safra Chair in Neuropsychopharmacology.

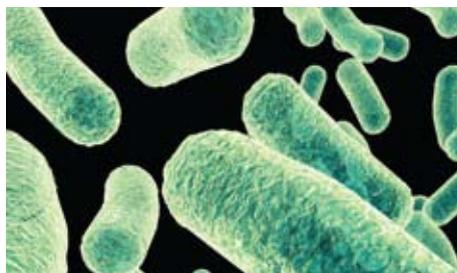
Neuropsychopharmacology is the study of pharmaceuticals or pharmacology as applied to neurological and psychiatric disease.

Professor Nutt is an expert in how the circuits in the brain work together and has made key discoveries about the role of neurotransmitters in anxiety, depression, addiction and sleep that have improved the treatment of patients with these disorders.

In his new role he will be using cutting edge scanning techniques to develop new treatments for a range of conditions, including Alzheimer's disease and depression.

The Edmond J. Safra Chair in Neuropsychopharmacology is a new position at Imperial, established with a donation from the Edmond J. Safra Philanthropic Foundation and Mrs Lily Safra.

—LUCY GOODCHILD, COMMUNICATIONS



## New centre for synthetic biology

Programming biological cells so that they behave like engineering parts is the focus of research at a new UK centre announced last December, supplied by an £8 million grant from the Engineering and Physical Sciences Research Council (EPSRC).

The new centre will focus on synthetic biology, a field in which engineers work with molecular bioscientists to produce biologically based parts by modifying DNA. These parts could be used to build biological devices that could detect the early onset of disease or combat harmful bacterial infections.

Imperial, in partnership with LSE, will establish the Centre for Synthetic Biology

and Innovation as part of the EPSRC's effort to push the UK to the forefront of this field. Imperial's Professor Richard Kitney, Director of the Centre, says that this new research facility will bring a wealth of new expertise to the UK. He adds: "Imperial will recruit the best scientists from the UK and around the world to carry out collaborative research, generate intellectual property for licensing, and ultimately create spinout companies that will play a part in spawning new industries for the UK."

*"Imperial will recruit the best scientists from the UK and around the world to carry out collaborative research"*

Imperial's Professor Paul Freemont, who is Co-Director of the Centre, says: "Our understanding of how living cells work isn't as good as our understanding of electronic devices. We want to get to the stage where we've got all the parts we need to build any biological machine that we want."

—COLIN SMITH, COMMUNICATIONS

► For more information visit: [www3.imperial.ac.uk/news/synthetic](http://www3.imperial.ac.uk/news/synthetic)

# media mentions

—ABIGAIL SMITH, COMMUNICATIONS

THE OBSERVER ▶ 14 DECEMBER 2008

## Eco-warriors: the next generation

Environmental activism is one of the UK's few remaining growth industries, according to a feature in *The Observer* on the new generation of eco-warriors. Amongst the Climate Camp campaigners and Stansted Airport invaders, the newspaper includes a profile of Ellen Fry, a researcher in Imperial's Grantham Institute for Climate Change, who is studying the impact of climate change on plant life. "I was at school when I went to a lecture by an Exxon Mobil executive and I was terrified," she says. "I thought 'I have to do something useful with my life', so I moved into biology."



FINANCIAL TIMES ▶ 15 DECEMBER 2008

## Business skills help trafficked women build a brighter future

Trafficked women forced into prostitution are building new lives thanks to a pioneering scheme at Imperial College Business School, reports the *Financial Times*. The Hera



programme—'her equality, rights and autonomy'—aims to help participants develop their entrepreneurial and business skills, and is based on the format of a

traditional executive programme incorporating teaching, research and a two day workshop. "To begin with, I had a real sense of anger and then a sense of determination," says Professor Simon Stockley, director of Imperial's full-time MBA programme. "Once the programme started, we were in awe of the resilience and the humour—and the intelligence—of the women."

### Sign up for Imperial news

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THE SUN ▶ 31 DECEMBER 2008

## A pox on detox, say scientists

Relying on your liver and kidneys to cleanse your body after the Christmas excess is far more effective than investing in expensive and scientifically dubious detox merchandise, *The Sun* warns its readers. According to doctors, the claims made by products such as pills, patches and drinks are often meaningless on closer inspection. "It's a con," says Professor Alan Boobis (Investigative Science). "A lot of these products have no scientific basis."



THE INDEPENDENT ▶ 8 JANUARY 2009

## Veggie favourite is a thinner winner

Quorn, the meat substitute made from mycoprotein which forms the basis of many a vegetarian's dinner, could have a role to play in controlling our bulging waistlines. A new study from the British Nutrition Foundation suggests that mycoprotein can make us feel fuller for longer than meat, though researchers stress that the small numbers of people involved in the study makes further work necessary.



Professor Gary Frost (Investigative Science) tells *The Independent*: "We're about to start research on whether mycoprotein has a role in appetite regulation—if it makes you feel full and therefore reduces the amount you eat. This is the golden chalice of nutrition. Quorn is an attractive candidate because of its low fat content, so if it does have a role that would be fantastic."

Imperial College Healthcare **NHS**  
NHS Trust

## NEWS

### Cardiac surgery to be relocated to Hammersmith Hospital

An extensive new development at Hammersmith Hospital will see all elective cardiac surgery throughout Imperial College Healthcare located on one site.



The new development, to be completed as early as December this year, will consolidate cardiac surgery provided at Hammersmith and St Mary's hospitals into refurbished facilities at Hammersmith, and will mean more than 1,000 cases can be treated per year.

Existing wards will be refurbished to create a dedicated cardiac surgery ward, a cardiac intensive care unit, including five new single rooms, and a dedicated cardiology and cardiothoracic step-down ward.

To improve the patient experience, all ward spaces will be renovated with better shower and toilet facilities and a greater emphasis on privacy and dignity.

*"Environmental upgrades and better facilities will mean an improvement in service delivery"*

Lara Waywell, Head of Operations for Circulation Sciences and Renal Medicine, said: "The new site is an exciting development for both patients and staff. Environmental upgrades and better facilities will mean an improvement in service delivery and greater employment opportunities for staff, such as developing new roles within nursing."

Jon Anderson, Cardiothoracic Surgeon and Chief of Service, continued: "By concentrating clinical expertise on one site and pooling resources, we will hopefully reduce waiting times, especially for tertiary referrals, and provide a more streamlined service to patients in north west London, which has a high-risk catchment population for coronary heart disease."

—CASSIE ZACHARIOU, IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

## Tiny magnetic crystals act as compass

Tiny crystals found inside bacteria provide a magnetic compass to help them navigate through sediment to find the best food, according to research published in the *Journal of the Royal Society Interface* on 17 December. The authors say their research could provide fresh clues to explain biomagnetism, a phenomenon by which some birds, insects and marine life navigate using the magnetic field that encompasses the Earth.

The study focuses on magnetotactic bacteria, which contain chains of magnetic crystals, called magnetosomes. They exist all over the globe, living in lake and pond sediments and in ocean coastal regions.

Since the discovery of magnetotactic bacteria in the 1970s, it has not been clear exactly what magnetosomes were for. Previous research suggested that some magnetosome chains would not be useful for navigation because their crystal sizes did not possess the right magnetic qualities.

However, researchers at Imperial and the University of Edinburgh have now shown that previous modelling methods were inaccurate. New calculations prove that all known magnetosomes do possess the right magnetic qualities for navigation.

Study leader Dr Adrian Muxworthy (Earth Science and Engineering) explained: "Magnetosomes align with one another to form a chain inside the bacteria and work like a magnetic compass. We are still not sure how, but this compass interacts with the Earth's magnetic field, helping the bacteria to navigate through sediment to the best feeding grounds."

—COLIN SMITH, COMMUNICATIONS



## Body clock linked to diabetes and high blood sugar

Diabetes and high levels of blood sugar may be linked to abnormalities in a person's body clock and sleep patterns, according to a genome-wide association study by Imperial and other international institutions.

The research, published in *Nature Genetics* on 7 December, suggests that diabetes and higher than normal blood sugar levels could partly be tackled by treating sleep problems.

People with high blood sugar levels and diabetes have an increased risk of developing a range of conditions, including cardiovascular diseases. The new study shows that a mutation called rs1387153, near a gene called MTNR1B, is associated with an increased average blood sugar level and increased risk of developing type 2 diabetes. MTNR1B forms part of a signalling pathway controlling the action of the hormone melatonin, which regulates the body's circadian rhythm,

or internal clock, in response to daylight and darkness. The discovery of the rs1387153 mutation provides evidence that high blood sugar and diabetes could be directly linked to an impaired circadian rhythm.

Professor Philippe Froguel (Medicine), corresponding author of the research, said: "There is already some research to suggest links between sleep problems and conditions such as obesity and depression, both of which are associated with diabetes..."

*"abnormalities in the circadian rhythm may partly be causing diabetes and high blood sugar levels"*

Our new study demonstrates that abnormalities in the circadian rhythm may partly be causing diabetes and high blood sugar levels. We hope it will ultimately provide new options for treating people."

The new study is part of a series of discoveries about the genetics of diabetes by Professor Froguel and his colleagues.

—LAURA GALLAGHER, COMMUNICATIONS

## Shedding light on serious childhood disease

Genetic variations that can predispose children to Kawasaki disease are highlighted in a new study published on 9 January in *PLoS Genetics*.

The disease, the cause of which is currently unknown, is a rare and severe childhood disorder that occurs mainly in young children. It is the most common cause of childhood acquired heart disease in developed countries, particularly among Japanese children and those of Asian descent.

The new study identifies variations in 31 genes which appear to increase a child's risk of developing Kawasaki disease. The findings will enable scientists to develop more effective ways of tackling the disease by revealing new targets for treatment.

Professor Michael Levin (Medicine), one of the study's authors, said: "Sadly, all the hospitals in the UK frequently see children with Kawasaki disease. A child whose coronary arteries are damaged in early childhood faces a lifetime of uncertainty and risk, and we desperately need better treatments to prevent long term heart problems in those affected. We hope our new study will help us to reach this goal."

Researchers from Imperial and other international institutions performed a genome-wide association study in 119 Caucasian cases and 135 matched controls from Australia, Holland, USA and the UK. They looked at 250,000 genetic variants in each patient and uncovered the most significant genes that appeared to be involved in Kawasaki disease.

The researchers are now planning to analyse an Asian cohort of people with the disease to see if their results can be replicated.

—LUCY GOODCHILD, COMMUNICATIONS



## Picking up signals from global satellites

Researchers from Imperial are developing a system to monitor Global Navigation Satellite Systems (GNSS) and detect signal problems.

GNSS are a network of satellites orbiting the Earth that transmit precise microwave signals to antennae on the ground. These signals are transmitted to GNSS receivers enabling location, time and speed measurements to be taken.

Many users, including motorists, pilots and emergency services, rely on the accuracy of information from their GNSS receivers. However, transmitting signals can be affected by a number of subtle failures such as satellite transmission problems, atmospheric interference, or illegal jamming.

Currently, there are no effective methods for detecting whether signal quality has been compromised. Professor Washington Ochieng (Civil and Environmental Engineering) says that this has the potential to cause problems: "We've all heard the funny stories about drivers being led up the proverbial garden path because of problems with GPS devices. However, impacts to signal quality can have serious



consequences to shipping, transport and emergency services."

Professor Ochieng and his team are working with a number of partners including the University of Bath and BT Design, on a new system named GAARDIAN (GNSS Availability, Accuracy, Reliability and Integrity Assessment for Timing and Navigation) to improve monitoring of signal transmissions. As part of the £2.2 million research project, portable probes will be developed to continuously transmit information to a computer server and detect whether signal quality is deteriorating, interrupted, or jammed. The team plan to develop a fully operating prototype of their system for commercialisation.

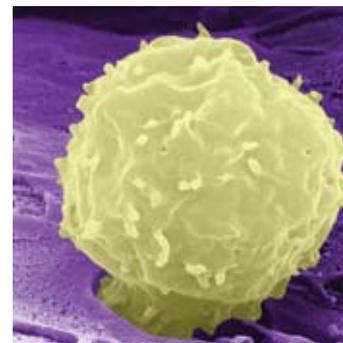
—COLIN SMITH, COMMUNICATIONS

## Stem cells called up to repair the body

Imperial researchers have tricked bone marrow into releasing extra adult stem cells into the bloodstream, a technique that they hope could one day be used to repair heart damage or mend a broken bone.

When a person has a disease or an injury, the bone marrow mobilises different types of stem cells to help repair and regenerate tissue. The new research, published on 7 January in the journal *Cell Stem Cell*, shows that it may be possible to boost the body's ability to repair itself and speed up repair by using different new drug combinations to put the bone marrow into a state of 'red alert' and send specific kinds of stem cells into action.

In the new study, researchers tricked the bone marrow of healthy mice into releasing two types of adult stem cells – mesenchymal stem cells, which can turn into bone and cartilage and can also suppress the immune system, and endothelial progenitor cells, which can make blood vessels and therefore have the potential to repair damage in the heart.



Dr Sara Rankin, the study's corresponding author from the National Heart and Lung Institute, said: "We hope that by releasing extra stem cells...we could potentially call up extra numbers of whichever stem cells the body needs, in order to boost its ability to mend itself and accelerate the repair process. Further down the line, our work could lead to new treatments to fight various diseases and injuries which work by mobilising a person's own stem cells from within."

—LAURA GALLAGHER, COMMUNICATIONS

*"we could potentially call up extra numbers of whichever stem cells the body needs, in order to boost its ability to mend itself"*

## Protea plants unlock secrets of species 'hotspots'

New species of flowering plants called proteas are appearing in parts of Australia and South Africa faster than anywhere else in the world, according to research published in *Proceedings of the National Academy of Sciences (PNAS)* on 22 December.



Proteas are best known as the national symbol of South Africa. The international team behind the new study created an evolutionary

'family tree' of all 2,000 protea plant species on Earth – the majority of which are found in South Western Australia and the Cape floristic region of South Africa.

The research provides the first conclusive proof that plant species are evolving approximately three times faster in these 'biodiversity hotspots'. The study dates this surge in protea speciation as occurring in the last 10–20 million years, following a period of climate change during which South Western Australia and the Cape Floristic Region became hotter, drier, and more prone to vegetation fires.

Dr Vincent Savolainen (Natural Sciences), one of the study's authors, who is based at Imperial and the Royal Botanic Gardens, Kew, commented: "Something special is

*"Something special is happening in these regions: new species of proteas are appearing notably faster than elsewhere"*

happening in these regions: new species of proteas are appearing notably faster than elsewhere, and we suspect this could be the same case with other plant species too. This study proves that the abundance of different kinds of proteas in these two areas isn't simply due to normal rates of species diversification occurring over a long period of time."

—DANIELLE REEVES, COMMUNICATIONS



# Designing a brighter future

Emily Ross meets with some of the Grantham Institute's latest recruits to find out how they are contributing to the future of our world.

Despite the tumbling stock markets and the threat of melting ice caps Professor Sir Brian Hoskins, Director of the Grantham Institute for Climate Change, has an optimistic outlook for 2009. He says: "The credit crunch is a fantastic opportunity for the UK to reassess what we are doing. I hope the short-term measure of encouraging people to spend money in the shops is replaced by more strategic thinking – how will the UK contribute towards the world? What makes sense for our future?"

With the global economic crisis, the UK's traditional role as a financial leader is in jeopardy, but Professor Hoskins reasons: "If we chose to invest our money in all the clean technologies out there and new ways of doing things, we could become leaders



in this field. The two problems needn't be considered separately."

Professor Hoskins admits that visions of climate change portrayed in the media can often seem so dire that they actually

encourage apathy. He says: "It is not hopeless but it gets increasingly difficult each year that goes by without doing anything."

And tackling climate change head-on is one of the reasons why the Grantham Institute for Climate Change was set up in February 2007. He says: "I hope the existence of the Grantham Institute can help the world appreciate the climate change problem and also provide a sense of hope that we can do something about it. Our aim is to try to anticipate what the world is going to be like in 2050 and address the potential problems."

Driving Professor Hoskins' vision for the future are the researchers working for the Institute. The Grantham management team are keen to get researchers from across the College who are working on climate change research involved in the Institute, and over the last year there has also been

a big external recruitment drive with more researchers set to begin this year. Professor Hoskins has employed people from all sectors to work directly for the Institute, looking at a range of climate change areas including global health, solar power and the economy.

## The economics of climate change

Although on the surface the economy may not have an obvious link to climate change research, Professor Hoskins explains why it is an integral factor: "Economics can help us predict the real implications of bringing in renewable energy, it tells us how much new technologies will cost, what policy might be needed and allows us to gauge just how possible our plans are. Having a strong economic basis is essential to help us show the world that our plans are grounded in reality."

In October 2008 two economists, Dr Mirabelle Muûls and Dr Julien Chevallier, joined the Grantham Institute to look at different aspects of the economy.

Dr Muûls specialises in environmental and international economics and is particularly interested in the transfer of clean technologies to developing countries. Her key research project seeks to understand why firms within a sector, producing the same type of products, show a great variation in their energy efficiency. She says: "This is crucial in order to tackle climate

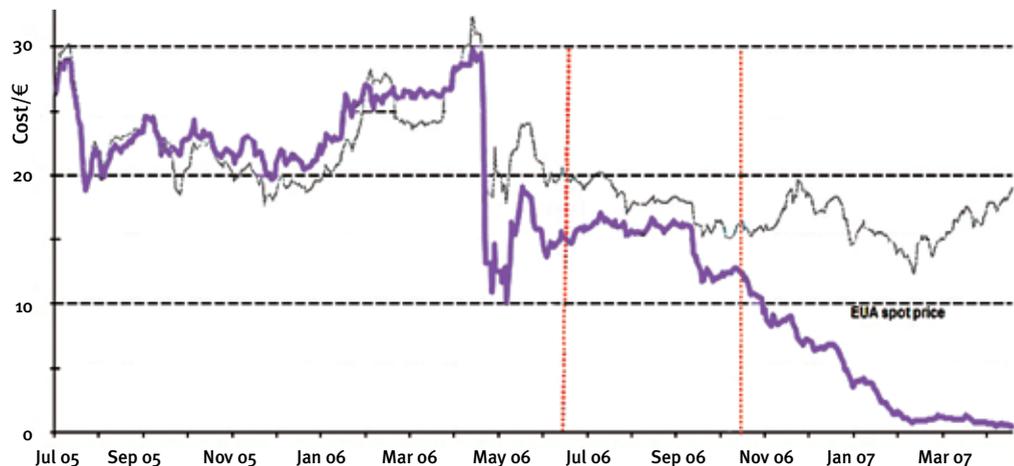


change, given that firms are responsible for a large share of emissions. There are huge potential savings in CO<sub>2</sub> emissions that could be realised by improving firm-level performance."

Dr Muûls has never worked in a pure science environment before, she says: "It's great because it means I will be able to develop policy which is consistent with what science tells us about climate change."

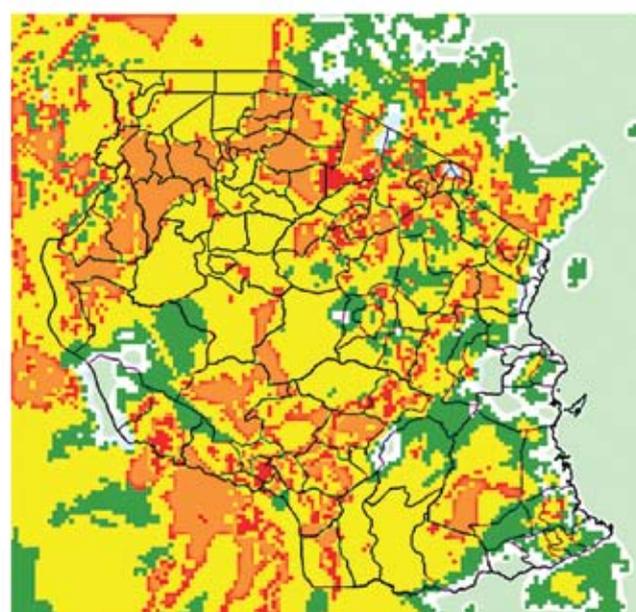
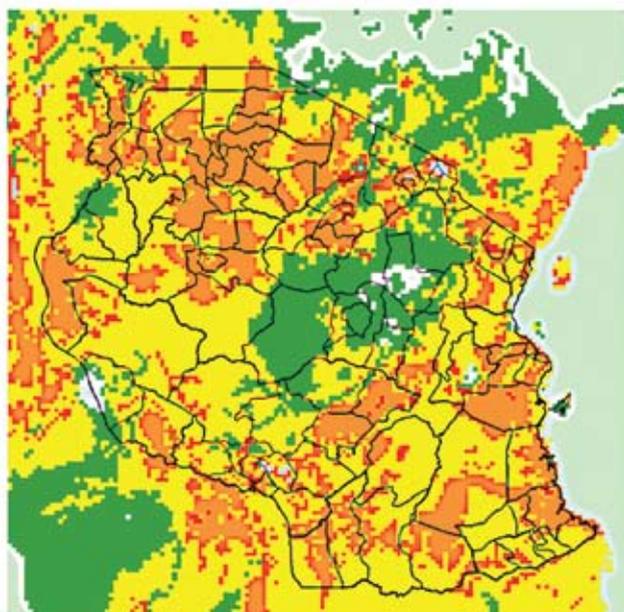
**"Economics can help us predict the real implications of bringing in renewable energy"**

Dr Muûls explains that it was Professor Henry Tulkens, from the Université Catholique de Louvain who first sparked her interest in climate change: "He told me how important understanding the economics behind climate change was in order to solve the problem in the most efficient way and to create the right incentives for people, firms and governments to change their attitudes."



Carbon spot and futures price development from July 1, 2005 to April 30, 2007. Source: Bluenext and ECX.

Changes in the probability of malaria becoming endemic as a result of climate change in Tanzania from 2006 (left) to 2050 (right). The progression from green to red represents increasing risk of endemic malaria.



## Carbon trading

Another environmental economist working for the Grantham Institute, Dr Chevallier, specialises in carbon finance and emissions trading. Emissions trading is a term which relates to the Kyoto Protocol (the United Nations'

environmental treaty adopted in 1992) which prescribed a five per cent reduction target in greenhouse gases for 182 countries.



Professor Hoskins is also closely involved in the topic of carbon emissions, as he sits on the Committee on Climate Change, an influential body established as part of the Government's Climate Change Bill. Asserting the continuing importance of climate change

in the heart of the stock market slump last October, the Committee set new targets to reduce the UK's CO<sub>2</sub> emissions by 80 per cent by 2050.

Dr Chevallier explains that in order to control carbon emissions the EU developed a system of carbon trading permits, allowing companies to trade their allowances with each other – creating a new trading market related to emissions. However, between 2006 and 2007 the spot carbon price (the price at the point of trading) collapsed, as he explains: "Unfortunately, the carbon price which was as high as €30 per ton of CO<sub>2</sub> emitted in April 2006 plummeted to zero in December 2007."

Looking at the carbon trading market, and finding out how to amend the system and what factors affected its demise, is Dr Chevallier's key focus. He is also interested in what the EU can learn from this early experience. He says: "At the European level, during 2005–06, the most conservative estimates state that the emission of 54 million tonnes of CO<sub>2</sub> was avoided. We can't ignore these figures. As well as finding out what we did wrong, we also need to learn what we did right."

Dr Chevallier explains what drew him to his role at the Institute: "Carbon finance is a small but growing academic field. I have come here to develop my expertise and to make a seminal contribution to asset pricing of the CO<sub>2</sub> market. I'm really excited as at the Grantham Institute and with senior researchers within the Business School there is the

opportunity to assess quantitatively the development of the European carbon market."

## Infectious disease modelling

The effect of climate change on human health is another important area for the Institute, and Dr Paul Parham has been brought in to develop mathematical models which can predict the future impact of infectious diseases such as malaria.



Dr Parham studied for his MSci in the Department of Physics before moving to the Division of Epidemiology, Public Health and Primary Care to conduct a PhD developing theoretical tools to model and analyse infectious disease outbreaks such as foot-and-mouth disease.

He explains that mathematical models are useful retrospectively, in real-time and to help predict risks before they happen. "What you don't want to be doing is working to develop a model from scratch when there has been a rapid outbreak and you are massively under pressure. At that stage, you want to be able to feed data into a reliable and meaningful model and quickly evaluate a

range of possible control options."

One of the variables Dr Parham is looking at in his current research is temperature and its effects on the spread of disease. He says: "Our current climate models predict that, on average, temperatures may go up by around two to four degrees Celsius by 2100. Diseases like malaria may be more likely to occur as temperatures rise up to a certain limit, as mosquitoes – which carry the disease – process blood meals faster and survive longer. However, if the temperature rises too much this causes mosquitoes to die, which causes malaria incidence to drop. What I'm developing is a set of models which take temperature and other environmental factors into account and look at the global burden of disease in the future, month by month and area by area."

Professor Hoskins explains how valuable these models will be for developing health policy. He says: "There are ambitious plans to try and eradicate malaria in the future. The plan is that Paul's mathematical models will provide policy makers with an idea of how future temperatures and weather patterns impact on the spread of disease, which can be used alongside existing medical knowledge of the disease. It would

continued on page 11



## mini profile

### Dr Tina van de Flierdt

Dr Tina van de Flierdt (Earth Science and Engineering) is hoping to discover the origins of an ancient mountain range buried under thousands of metres of Antarctic ice.

#### What do you do at Imperial?

"I am a lecturer in isotope geochemistry. I analyse the chemical content of materials such as water, corals and sediment. They tell us a lot about the Earth's climate system in the past. Understanding the past is important for predicting future effects of climate change."

#### What inspired you to become a scientist?

"I had a great geography primary school teacher. He really got us interested in how the Earth works."

#### What are you currently working on?

"I am hoping to solve the mystery of the Gamburtsev subglacial mountains in Antarctica by studying the chemical composition of

materials derived from this area. These mountains are the size of the European Alps buried under kilometres of ice. Nobody knows how they got there."



#### What are the implications for the world if you solve this mystery?

"Most people think that Antarctic glaciation started in the Gamburtsev subglacial mountains some 40 million years ago. Besides resolving the puzzle of how the mountains got there, my

research may find that they have played an important role in helping Antarctica make its transition from a warm greenhouse climate to its present frigid icehouse condition."

#### What do you enjoy most about working in Earth Science and Engineering?

"You can use your imagination and it allows you to be curious. Also, in my line of work when you are trying to understand the Earth you begin to realise how small we really are compared with the Earth's global cycles."

—COLIN SMITH, COMMUNICATIONS

# science

... from scratch



## Greenhouse gases

"In 1824 Joseph Fourier, a French mathematician, first described the greenhouse

effect, comparing the effect of the Earth's atmosphere to that of glass covering a bowl. Svante Arrhenius, a Swedish physicist and physical chemist, later (1896) linked temperature changes on Earth to concentrations of carbon dioxide in the atmosphere.

Carbon dioxide is one of the greenhouse gases; others include methane, nitrous oxides, ozone and water vapour. The Earth receives radiation from the sun, and the surface of the Earth heats up; this heat is then re-emitted from the Earth as infrared radiation. Greenhouse gases absorb some of this heat and re-emit it, meaning that less heat is lost to space from the atmosphere. Without the greenhouse effect the Earth would be much cooler than it is.

Since the industrial revolution in the late 1800s, the concentration of greenhouse gases, in particular carbon dioxide from the burning of fossil fuels, has increased. Most scientists believe that this increased concentration of greenhouse gases due to human activity has led to increased average global temperatures, commonly referred to as 'global warming'."

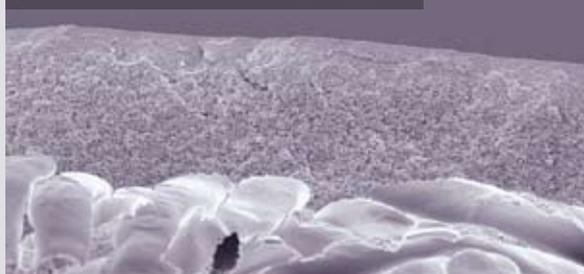
—DR LAURA WILLIAMS (INSPIRE SCHEME)

## inventors corner

### Chemical separations technology

As founder of one of the first Imperial spin-out companies, **Membrane Extraction Technology Ltd (MET)**, **Professor Andrew Livingston** (Chemical Engineering and Chemical Technology) has seen first-hand how research can be successfully translated for commercial applications.

Organic solvent nanofiltration membranes are conventionally used to remove impurities when refining substances like petrol, natural gas and pharmaceuticals



Professor Livingston originally formed MET in 1995 to develop molecule-separating membranes for treating chemical wastes in the chemicals processing industry. Membranes are conventionally used to remove impurities when refining substances like petrol, natural gas and pharmaceuticals. Professor Livingston quickly realised that he would need to develop more generic separation technologies, which could be applied in a number of sectors if the technology was to be a commercial success.

By 2002 MET had produced a portfolio of tools including organic solvent nanofiltration techniques for heavy metal removal, catalyst recovery, product purification, and solvent exchange, and a membrane aromatic recovery system for the recovery of aromatic acids and bases. These products are currently being used to achieve chemical separations and improve chemical processes and are being utilised by major blue-chip manufacturers in the pharmaceutical and fine chemicals industries.

Professor Livingston also leads the Separation Engineering and Technology (SET) research group and was recently appointed Head of the Department of Chemical Engineering and Chemical Technology. He believes that there is a synergy between his academic and commercial roles. "They benefit each other," he explains. "MET has enriched my academic life. I have industrial contacts for research projects and I can use my experiences to help my teaching."

MET is now commercialising some of its membranes through in-house manufacturing in west London, whereas previously their membranes were produced by a US partner. "Starting to distribute our own membranes is very exciting," says Professor Livingston. "I hope MET can continue to be a leader in this technology area."

—MICHELLE COTTERILL, IMPERIAL INNOVATIONS

► [www.imperialinnovations.co.uk](http://www.imperialinnovations.co.uk)



## Designing a brighter future continued from the centre pages

be a huge mistake to make these plans without taking climate change into consideration.”



### Ocean modelling

Another important research subject for the Institute is the ocean and how it will interact with changes in climate in the coming years. Since 2001 Dr Matt Piggott, the new

Grantham Reader in Ocean Modelling, has been working in the Applied Modelling and Computation Group in the Department of Earth Science and Engineering. The group has developed a computer programme using advanced numerical techniques which mimics and represents the behaviour of the ocean.

Working alongside mathematicians and oceanographers, Dr Piggott is now developing a new type of model to simulate the ocean. He says: “I’m trying to look at small scale aspects of the ocean at the same time as global scale circulation patterns. There are already very advanced models doing these two things separately but I’m trying to bring it all together to observe how the two scales interact with each other. For example, the

model will enable us to see how changes of temperature in one area of the world can affect the entire ocean.”

The ocean modelling system Dr Piggott is working on could be used for a number of complex problems but an ultimate aim is that it will act as part of a climate forecasting system.

Professor Hoskins explains: “Matt’s model is helping to make climate change predictions more robust and helping us understand more about oceanic processes. We could use it to answer questions such as: what would be the effect if ice in a particular area melts, and if there is a storm, which coastal areas would be affected? The glint in our eyes is that Matt’s model should form the basis of the ocean component of a future climate change model.”



### Solar photovoltaics

Another area of new climate change research being conducted in the Grantham Institute focuses on solar photovoltaic cells which convert sunlight into electricity.

Dr Ned Ekins-Daukes is a lecturer in the Department of Physics and is also conducting research for the Institute in the photovoltaic field. He explains that photovoltaic research was prompted by the energy crises in the 1970s. In the 1990s, Japan introduced an effective photovoltaic electricity scheme, which was followed by Germany in 2000 and has led to rapid growth of the industry. The reduction in manufacturing cost has been sufficiently great that photovoltaic electricity is projected to match consumer grid electricity prices in 2010 in Italy and 2016 in Germany.

Currently, however, solar panel technology is usually less than 20 per cent efficient. Dr Ekins-Daukes describes his research: “I’m working to improve the power conversion efficiency of solar cells and exploring new ways of generating electricity from sunlight. The highest efficiency achieved at Imperial is 30.6 per cent and the thermodynamic limit to solar cell efficiency is 86.8 per cent, so in principle there is plenty of room for improvement. The challenge is to develop new materials with the appropriate properties. The cost of these high performance solar cell materials is high, but if inexpensive mirrors or lenses can be used to direct the sunlight onto small solar cells, the system cost can be greatly reduced, in some cases approaching the wholesale electricity price. The key to this approach is achieving high-efficiency



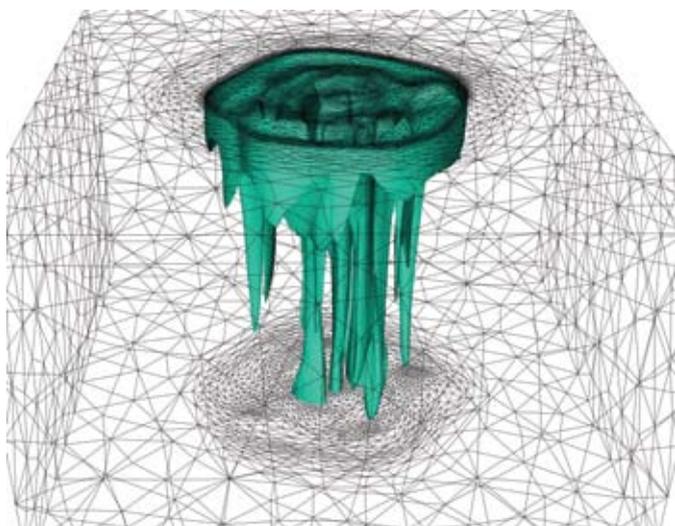
A photo of Amonix Concentrator Photovoltaic System at the University of Nevada, taken on one of Professor Ekins-Daukes’ field trips.

solar power conversion.”

Commenting on Dr Ekins-Daukes’s research, Professor Hoskins says: “I hope Ned will be able to make breakthroughs in the solar photovoltaic area which will lead to solar cells becoming a much more realistic possibility in all areas of the world. Just imagine in a village in Africa – instead of waiting for a whole renewable energy grid to be developed all you would need is to use photovoltaics as an individual energy source. If this technology could be made more readily available it would be really fantastic.”

A self confessed ‘optimist’ it is easy to be won over by Professor Hoskins’ vision for the future – and, after hearing the enthusiasm of the researchers for the innovative research being conducted at the Institute, one cannot help but agree with the Director’s summation that the future is indeed bright. As Professor Hoskins concludes: “The economic crisis isn’t the end of the world: it simply means that we are going to have to produce even better work and be even more persuasive.”

— EMILY ROSS, COMMUNICATIONS



A simulation of deep convection in the ocean using the Imperial College Ocean Model computational code. Dense water is formed at the surface of the ocean due to surface cooling and then sinks in plumes that can be seen above. This process plays a key role in the large scale circulation of the ocean and is an important factor in climate change.

## India Challenge



**“On 29 December, alongside 152 other participants and two other students from Imperial (Aanchal Jain and Keng Suan Khor), I set off on a challenging 300 kilometre, five day cycling journey from Agra to Jaipur, both in Northern India.**

The event, called ‘Cycling for Compassion, Caring, Connectivity’ raised a phenomenal £250,000

for the following charities: Veerayatan Vidyapeeth (India), Rays of Sunshine Children’s Charity (UK), and Naomi House Children’s Hospice (UK).

We cycled 300 kilometres of mixed terrain – rough roads with pot-holes, Indian highways, through rural villages, muddy roads, sandy roads, mountains, lakes, valleys, and not to mention dodging cows, camels, goats, and water-buffaloes! It was an experience that I will treasure forever.”

—RUPAL SHAH, EPIDEMIOLOGY, PUBLIC HEALTH AND PRIMARY CARE

► If you would like to sponsor Rupal please visit: [www.justgiving.com/rupalandkanak](http://www.justgiving.com/rupalandkanak)

## Running for Mumbai

**On 18 January, Gale Lewis, PA to Professor Desmond Johnston (Medicine), ran the Mumbai marathon for a charity called the Pavement Club, based near the central rail terminus in Mumbai.**

The charity helps over 90 children to receive basic education and regular hot meals. Many of the children live on the street or in slums and have no family so this is a vital activity for them, and offering them routine and contact with other children. On Friday nights the Pavement Club is open to all street dwellers around the terminus. Up to 300 people come for food and the chance to wash and be entertained. Gale says: “The main terminus was hit badly during the Mumbai terrorist attacks last November and I suspect a number of these families would have been hurt and therefore I feel it is more important than ever to help.”

Gale trained for the marathon but she admits running in the Indian heat can take its toll. Speaking of her last experience she says: “It’s not a case of getting your best time – it’s a fantastic atmosphere. Children come out from their houses and are running alongside you – it really is a lot of fun.”

Gale funded her own trip, and as there are no overheads, all of the money raised is spent directly on the children.

► If you would like to support The Pavement Club contact: [g.e.lewis@imperial.ac.uk](mailto:g.e.lewis@imperial.ac.uk)

► To find out more visit: [www.pavementschoolmumbai.org](http://www.pavementschoolmumbai.org)



### Filipino martial arts

Is your perennial New Year’s resolution to get in better shape? In 2009 a number of staff and students at Imperial will be keeping fit in a novel way, through practising Filipino martial arts. The art form includes stick fighting, empty-handed techniques, kicking and awareness training.

The Imperial Filipino Martial Arts Club was set up in August 2008, although College members have been learning and practising it for over four

years. Amit Puri, a PhD student from the Department of Mechanical Engineering, is the club’s Chair. Describing the benefits of this particular martial art form over others, he said: “It’s very practical, you’re learning ways to defend yourself

**“You’re taught armed and unarmed moves and there’s a focus on improvisation.”**

and remain aware. You’re taught armed and unarmed moves and there’s a focus on improvisation.” Amit only took up the martial arts 12 months ago but has been hooked ever since and is now considering an

instructor qualification. He says: “A staff member recommended it to me and I loved it. There’s less drill than other martial arts and you get to mix it up a bit.” The club runs evening and afternoon sessions and is open to staff and students. Techniques can be learnt by anyone regardless of their fitness level.

Classes run on Mondays, 18.00–19.30, and Thursdays, 13.00–14.00, in the Student Union building.

—JOHN-PAUL JONES, COMMUNICATIONS

► For more information email: [filipino@imperial.ac.uk](mailto:filipino@imperial.ac.uk)

### Some tips for keeping safe on the streets from the Filipino martial arts club:

1. Try to avoid conflict where possible and walk or run away.
2. Always be aware of your surroundings, especially nearest exit routes so you can escape if necessary.
3. At night, stick to well-lit busy routes where there are other people around, and let someone know where you are, if alone.
4. If physically attacked, use a bag or umbrella to defend yourself and aid your escape.

# How to get more done in 2009



*With the holidays behind us, we resume ongoing projects and start new activities.*

*But how do we ensure that our energies are well directed to produce clear results? Faced with a list of jobs to complete, it can be difficult to decide what to do and how to concentrate our efforts. That's where effective prioritising can help. Here's one simple yet effective method to help you prioritise with the help of few Post It notes and a large piece of paper.*

## What to do:

1. Decide on the time period for prioritising: a week, fortnight, or a month.
2. Write each major project or task that you think needs doing in that time on a separate Post It. The Post Its should cover all the things you need or want to do.
3. Draw a bullseye chart with five rings on the piece of paper.
4. Place the Post Its within the rings. Those closest to the centre should show tasks you see as the most important.
5. Only one Post It can be placed in the centre, with others distributed to all the rings.
6. Post Its might need to be readjusted and one or two might end up outside the bullseye chart.
7. When completed, allocate work time (one or two hours per day) to the central activity
8. Start each day by working on your central activity and stick with it.
9. When the central activity is complete or new work comes in, rearrange the Post It notes to create a new focus. When the set time is up, review the result.
10. Share your learning with others.

— MAGDALENA BAK-MAIER, LEARNING AND DEVELOPMENT CONSULTANT

► *If you have a good method for prioritising email Magdalena at: [m.bak-maier@imperial.ac.uk](mailto:m.bak-maier@imperial.ac.uk)*



## Master stroke for Silwood teaching facilities

Newly refurbished facilities are set to revolutionise training of Master's students at Silwood Park Campus this term. The Hamilton Building at Silwood, which was previously owned by the Centre for Agricultural Bioscience International, has been bought by the College and converted to provide over 100 students with a suite of flexible seminar rooms, a cutting edge teaching laboratory, laboratories for project work, a 60-seat IT suite, a new library and breakout areas for group work.

The Hamilton Building will bring together all postgraduate training at Silwood under one roof, providing a focal point for the expanding community of students at the campus. One hundred and nine students are currently studying for Master's degrees at Silwood in a range of biological and ecological subjects, from entomology to conservation science.

Professor Ian Owens, Head of the Department of Life Sciences, comments: "Before now, our training and workshop facilities were spread across Silwood's large campus in many different, often old, buildings. With student numbers growing every year, and plans for additional courses in the future, we need centralised, purpose-built facilities to support these scientists at the start of their career."

Our vision is that the Hamilton Building will act as the campus' hub, building on the strong sense of community that already exists here at Silwood, whilst ensuring that our students have access to the best kit for their lab and computer work."

— DANIELLE REEVES, COMMUNICATIONS



## New look SCR



**The Senior Common Room (SCR) on the South Kensington Campus has been revamped over the winter break to offer staff and PhD students a wider selection of hot and cold snacks, increased seating and a newly designed café bar area.**

Other improvements include new furniture, a rainbow-coloured carpet and a retractable 'acoustic wall' which can divide the room into two versatile spaces for functions and events.

The SCR provides food and drink to an average of 1,500 staff and PhD students a day and the space is also used for informal meetings. Dan Curtis (Estates), who led the project, says: "The new design had to reflect the many functions of the SCR, and offer quality contemporary architecture for a wide spectrum of users."

Vishal Joneja, SCR Manager, is delighted with his new workplace. He says: "The SCR looks fresh and welcoming and the extra seating and the new café provision will really help us deliver an even better service to our users."

The SCR restaurant is open for breakfast between 08.00 and 10.30 and for lunch between 11.45 and 15.00 Monday to Friday. The café bar is open from 08.00 to 18.00.

— LEENA BARRETT, COMMERCIAL SERVICES

► *For more information, see: [www.imperial.ac.uk/eatinganddrinking](http://www.imperial.ac.uk/eatinganddrinking)*

## celebrating long service



### 20 years



**Professor Paul Abel, Professor of Urology (SORA)**

Paul Abel first came to the Hammersmith Hospital as a Registrar in 1982 and in 1989 was appointed Senior

Lecturer at the Royal Postgraduate Medical School which later became part of Imperial. Since then he has also held the position of Honorary Consultant Urologist at the Hammersmith and Charing Cross Hospitals and became a Professor of Urology in Imperial's SORA Division 18 months ago.

His research interests include the use of oestrogen patches to treat advanced prostate cancer, high-intensity focussed ultrasound to destroy cancerous tissue non-invasively, and taking low intensity clinical urology work into the community.

"Over the past 20 years," he says, "urology management has changed hugely, with new therapeutic and diagnostic techniques enabling us to more accurately assess each patient and tailor their treatment." Professor Abel is particularly enthused that the atmosphere and traditions of the Royal Postgraduate Medical School are being revived as part of the AHSC.



**Karen Linfield, Clinical Affairs Coordinator, Division of Investigative Sciences**

Karen Linfield joined the Royal Postgraduate Medical School, Ham-

mersmith, in 1989 as Secretary to Professor John Goldman, head of the leukaemia unit. Over the years, her role has developed and a key responsibility now is administering Leuka, an in-house charity, set up by one of Professor Goldman's former patients, which helps to support the costs of research into the causes and treatment of leukaemia at the Hammersmith Hospital. She has been involved with a number of the charity's fundraising events including *Who's Cooking Dinner?*, a gastronomic event featuring well-known chefs cooking for tables of 10 guests, and a bike ride from Geneva to Cannes. These events have helped to raise more than £3 million so far. At Hammersmith, Karen also liaises with overseas doctors and medical students. In her spare time, Karen loves cooking and travels extensively.

*Staff featured celebrate anniversaries during the period 1–15 January. Data is supplied by HR and is correct at the time of going to press.*

**Dr Paul Barton** • Reader (NHLI)

**Gill Martin** • Senior Support Technician (NHLI)

**Professor Mike Warner** • Professor of Geophysics (Earth Science and Engineering)

**Dr Richard Williams** • Senior Lecturer (Kennedy Institute of Rheumatology)

### 30 years

**Jeff Brooks** • Technician (Estates)

**Adrian Clark** • Team Leader: Natural Sciences (Library Services)

**Dr Pradeep Luther** • Principal Research Fellow (NHLI)

**Paul Stokes** • Senior Library Assistant (Library Services)

**Harry Vine** • Departmental Services Manager (Physics)

### 40 years



**Catherine Ambrose, Personal Assistant (NHLI)**

Catherine Ambrose has worked for 40 years at the Institute of Diseases of the Chest (now the Cardiotho-

rac Institute) at the Royal Brompton Campus. She joined the Institute in January 1969 as Secretary to the Dean, Dr Philip Zorab. Since then, she has worked for eight Deans and, for the past 10 years, has been PA to Professor Philip Poole-Wilson in the Department of Cardiac Medicine. "I've stayed so long because it's an absolute peach of a job," says Catherine. "I've worked for very eminent people in the field of heart and lung disease and it's been a real privilege." Over four decades, the key change in Catherine's working life has been technology—she started with a manual typewriter, using waxed paper for copies. Now in her early 70s, Catherine works part-time and plans to join the League of Friends—a voluntary organisation which supports the work of local hospitals in her area.

## Obituaries



**Professor Bob Stoneley** •

Bob Stoneley, Emeritus Professor of Petroleum Geology who worked at the College between 1978 and 1994, died on 15 September 2008. Professor Richard Selley pays tribute:

"Bob graduated in Geology from

Cambridge in 1951 and spent the next 18 months with the Falkland Islands Dependencies Survey, carrying out geological expeditions in Antarctica. On his return he was awarded the Polar Silver Medal and married palaeobotanist Hilda Cox.

Bob spent the next 25 years as an explorationist with BP in a number of countries including Alaska where he led the team responsible for the discovery in 1968 of Prudhoe Bay, the largest oilfield in North America.

In 1978 Bob took up the Chair of Petroleum Geology at Imperial. He revitalised the MSc Petroleum Geology course and was a founder of the joint Association for Petroleum Exploration courses which combined the forces of Imperial, the Petroleum Exploration Society of Great Britain and the Geological Society of London.

Bob published seminal contributions to the petroleum geology of several parts of the world, for which he received the Coke Medal and the Petroleum Group silver medal. He was awarded the Geologists' Association's Halstead Medal and the MacKay Hammer by the Geological Society of New Zealand.

Bob's name lives on in Antarctica: Stoneley Point sits at the entrance to Whisky Bay on James Ross Island. Also, the Stoneley Medal is awarded to participants in the American Association of Petroleum Geologists' annual student competition based on Imperial's Barrel Award: a key element of the MSc Petroleum Geoscience course. Bob leaves a wife, son and daughter and will be greatly missed.

## Ghost Tank

Ghost Tank, the work of Royal College of Art MA Painting students Nathan Barlex, Robin Footitt and Andrew Larkin, is being exhibited at the Blyth Gallery on level 5 of the Sherfield Building on the South Kensington Campus until 30 January. The Blyth Gallery is open from 8.00 until 22.00 and no tickets are necessary.

► For more information please contact Andrea Robins on: [a.robins@imperial.ac.uk](mailto:a.robins@imperial.ac.uk)



## Welcome

### new starters

Dr Rizwan Ahmed, Clinical Sciences  
Mr Turgut Aldemir, Security Services  
Miss Joyce Andrews, NHLI  
Dr Gerardo Aquino, Molecular Biosciences  
Mr Orestis Argyros, NHLI  
Mr Edward Astle, College Headquarters  
Mr Santosh Atanur, NHLI  
Dr Ana Aubareda Rodriguez, Kennedy Institute  
Mr Egidijus Aukorius, Physics  
Dr Ebru Aydar, Medicine  
Mrs Maggie Backhouse, Educational Quality Office  
Mr Mohammed Baklar, Materials  
Dr Alasdair Bamford, Medicine  
Dr Marion Barbazanges, Chemistry  
Miss Chloe Barnes, EPHPC  
Mr Colin Bateman, Investigative Science  
Miss Sharandeep Bhogal, NMH  
Dr Farid Biglari, Mechanical Engineering  
Miss Charlotte Bliss, Faculty of Medicine  
Dr Sarah Brice, SORA  
Mrs Ruth Brooker, Mechanical Engineering  
Ms Rosemary Brownhill, Library  
Dr Florian Brueckner, Molecular Biosciences  
Dr Oliver Buchmueller, Physics  
Dr Daniel Burgarth, Physics  
Mr Andrew Burton, Faculty of Natural Sciences  
Miss Victoria Cadman, NHLI  
Dr Ester Camp Navarro, NHLI  
Mrs Pirkko Carmack, NHLI  
Mrs Georgia Chan, Molecular Biosciences  
Miss Melanie Chevin, Development and Corporate Affairs  
Dr Sehun Chun, Institute for Mathematical Sciences  
Miss Lindsey Clarke, Bioengineering  
Mr Christopher Collister, Medicine  
Miss Jondene Cottrill, ICU  
Dr Deborah Coughlin, Civil and Environmental Engineering  
Mr David Crombie, Development and Corporate Affairs  
Mr Barry Crook, Faculty of Natural Sciences  
Dr Rana Dajani, Cell and Molecular Biology  
Miss Paige Daniel, Faculty of Medicine  
Miss Sarah Davis, NHLI  
Mr Tobias Dawes, ICT  
Mr Conan De Gannes, Accommodation Services  
Dr Lucia de la Riva Perez, Chemistry  
Miss Katie de Wit, SORA  
Mr Charles Dean, NHLI  
Mr Surinder Dio, ESE  
Ms Caroline Druce, Catering  
Mr Nicholas East, NHLI  
Dr Marianne Elias, Biology  
Ms Karlie Etim, Business School  
Ms Isobel Eyres, Biology  
Mr Pedro Ferreira, NHLI  
Mr Sebastien Fleurance, Catering  
Dr Gabor Foldes, NHLI  
Mr Martin Gear, Security Services  
Mr Jesus Gomez, Aeronautics  
Mrs Megan Grace, NHLI  
Dr Alan Groves, Clinical Sciences  
Miss Eleanor Groves, Cell and Molecular Biology  
Miss Elisabeth Haugen, Accommodation Services  
Dr Paul Haydock, NHLI  
Dr Pascale Hazel, Molecular Biosciences  
Miss Michelle Headley, NHLI  
Mr James Hill, ICT  
Miss Louise Humphreys, College Headquarters  
Dr Katharine Hurt, NHLI  
Mr Russell Ireland, ICT  
Dr Louisa James, NHLI  
Dr Anne Jay, ESE

Ms Eleanor Jestico, Faculty of Natural Sciences  
Dr Pamela Johal, Kennedy Institute  
Miss Natalie Johnson, Medicine  
Mr Trevor Johnson, Accommodation Services  
Dr Thibaut Jombart, EPHPC  
Dr Amir Kadiric, Mechanical Engineering  
Dr Georgia Karapostoli, Physics  
Miss Sandy Kaur Johal, Human Resources  
Mr Kenneth Keating, Bioengineering  
Mr Liam Kelly, Molecular Biosciences  
Dr Iva Klevernic, Kennedy Institute  
Miss Sarah Knight, Biology  
Dr Seong Ko, Mechanical Engineering  
Ms Magdalena Kudyba, NHLI  
Dr Andreas Kyriacou, NHLI  
Dr Sam Ladak, Physics  
Dr Ferdinand Lali, SORA  
Professor Jonathan Lamb, Cell and Molecular Biology  
Mr Rob Lambert, Physics  
Dr Christian Landles, SORA  
Miss Debbie Lee, NHLI  
Dr Eli Leinov, ESE  
Miss Gina Leo, NHLI  
Miss Clare Loane, NMH  
Miss Jennifer Lucas, Kennedy Institute  
Miss Cara Magoolagan, Faculty of Natural Sciences  
Mr Murphy Magtoto, NHLI  
Dr Louisa Malcolme-Lawes, NHLI  
Dr Daniel Mansur, Investigative Science  
Dr James Marriott, Chemical Engineering and Chemical Technology  
Ms Olwenn Martin, Centre for Environmental Policy  
Miss Lynn Maslen, SORA  
Miss Laura McConnell, Registry  
Ms Christine McCulloch, EPHPC  
Miss Fiona McLean, NHLI  
Dr Carolyn Millar, Investigative Science  
Ms Aleisha Miller, SORA  
Dr Zahra Mohri, Bioengineering  
Ms Karen Molloy, ICT  
Miss Alice Moore, Faculty of Natural Sciences  
Mrs Dee Moore, SORA  
Mr Trevor Morgan, Chemical Engineering and Chemical Technology  
Mr Peter Mountney, Computing  
Mr Troy Mouskos, EPHPC  
Mr Shahrul Mt Isa, EPHPC  
Dr Phillip Mueller, Medicine  
Mr Karin Muller, Materials  
Mr Evangelos Nastos, EPHPC  
Mr J.D. Naushahi, NMH  
Dr Manoj Navaratnarajah, NHLI  
Dr Monica Nijher, Investigative Science  
Professor David Nutt, NMH  
Mrs Charlotte Ohri, SORA  
Miss Louise Onions, Medicine  
Dr Ruth O'Reilly, NHLI  
Dr Punam Pabari, NHLI  
Miss Rizwana Patel, Finance  
Dr Ejaz Pathan, Kennedy Institute  
Ms Anne Perkins, EPHPC  
Dr Plamen Petrov, Physics  
Miss Rachel Platel, Chemistry  
Miss Mimi Poon, NHLI  
Mr Abhishek Pradhan, ICT  
Dr Carla Prata, Chemistry  
Dr Alexander Pudney, Biology  
Miss Sowmya Purushothaman, Chemistry  
Miss Sofia Rashid, Investigative Science  
Dr Manuela Rehr, NHLI  
Miss Eva Rieser, Medicine  
Dr Rajat Roy, SORA  
Dr Gloria Rudenko, Cell and Molecular Biology  
Miss Manuela Russo, Materials  
Dr Grigory Ryzhakov, Kennedy Institute  
Mr Michail Sachinis, Humanities  
Dr Irene Sanjuan Nandin, Cell and Molecular Biology  
Dr David Sanz-Rosa, NHLI

Mr Timm Schlegelmilch, Cell and Molecular Biology  
Mr Nicholas Schofield, Sport and Leisure Services  
Mrs Behnaz Schofield, NHLI  
Mr Khavi Shaik, ICT  
Dr Thomas Shimizu, Molecular Biosciences  
Dr Lukas Shribeny, ESE  
Mrs Ruth Skeeles, EPHPC  
Mr Angelos Skodras, Mathematics  
Dr Julian Sonner, Physics  
Dr Thomas Sorensen, Mathematics  
Dr Carol Spencely, Human Resources  
Mr Oliver Stein, Mechanical Engineering  
Dr Natalie Stingelin-Stutzman, Materials  
Dr Loi-Wah Sun, Computing  
Dr Nelofer Syed, NMH  
Miss Hanna Sykuliska, EEE  
Ms Min Tang, Chemistry  
Dr Maurizio Tarzia, Materials  
Miss Lauriane Thorner, EEE  
Mr Thomas Thorpe, Faculty of Medicine  
Mr Mathieu Toumi, Chemistry  
Mr Philip Tozer, SORA  
Dr Stephanie Traub, NHLI  
Miss Chun Tsang, Molecular Biosciences  
Miss Christina Turner, Chemistry  
Mr Ernest Turro Bassols, EPHPC  
Mrs Leigh Turvey, Occupational Health Service  
Mr Georgios Tzimirooulos, EEE  
Dr Jyothish Venkataramanan, Mechanical Engineering  
Miss Jill Waddingham, SORA  
Ms Sophie Wan, EYEC  
Dr Shiwen Wang, Mechanical Engineering  
Dr James Ware, Clinical Sciences  
Dr Petra Wark, EPHPC  
Miss Carole Warren, ICT  
Dr Martina Wicklein, Bioengineering  
Mr Keith Willson, NHLI  
Dr James Wilton-Ely, Chemistry  
Mr Mengste Woldearegay, ICU  
Dr Mark Workman, Centre for Environmental Policy  
Dr Kazuhiro Yamamoto, Kennedy Institute  
Mr Yang Yi, Molecular Biosciences  
Miss Qian Zhang, Investigative Science  
Miss Weijie Zhang, Investigative Science

## Farewell

### moving on

Miss Jeanette Abela, Civil and Environmental Engineering  
Mr Alexander Addo, Registry  
Mr Felix Adedeji, Estates (12 years)  
Ms Nadine Afram, Physics  
Ms Benedicta Agbawara, SORA  
Dr David Agnew, Biology (12 years)  
Miss Laura Allen, Library  
Dr Zahid Ashgar, EPHPC (5 years)  
Dr Damien Ashby, Investigative Science  
Dr Amy Ballantyne, Physics  
Dr Ian Ballard, Physics (9 years)  
Dr Matthew Benson, Clinical Sciences  
Dr Johannes Bergsten, Biology  
Dr Stephen Bradshaw, Physics (5 years)  
Mr Adam Candy, ESE  
Dr Daniele Casagrande, EEE  
Miss Katherine Cashell, Civil and Environmental Engineering  
Dr Brenda Chan, ESE (5 years)  
Dr Anil Chandrashekran, SORA (5 years)  
Mr Gary Childs, Faculty of Medicine (28 years)  
Mr Martin Connell, Registry (8 years)  
Dr Fiona Cotterill, SORA  
Mr Mikolaj Czajka, Catering  
Miss Helen Davison, Communications

Mrs Louise Dawson, SORA  
Dr Antonio Di Ferdinando, EEE  
Dr Shanning Dong, Chemical Engineering and Chemical Technology  
Mr Stefan Drexler, Kennedy Institute  
Dr Alvan Dudeny, ESE  
Miss Chandrani Edirisinghe Arachchige, Finance  
Dr Charles Ellis, Cell and Molecular Biology  
Miss Claire Escaron, Cell and Molecular Biology  
Mr Richard Fearn, ICT  
Mr Eduardo Fernandes, Medicine  
Dr Alistair Foster, Mechanical Engineering  
Dr Julie Fox, Medicine (5 years)  
Ms Hela Fox, Medicine  
Dr Gady Frenkel, ESE  
Dr Noemi Fukuhara, Cell and Molecular Biology  
Dr Ryan Fuller, NMH  
Mr Federico Galvanin, Chemical Engineering and Chemical Technology  
Dr Joshua Golbert, Chemical Engineering and Chemical Technology  
Dr Charlotte Golding, NMH  
Mr John Goulding, NHLI  
Miss Emily Gwyer, NHLI  
Mr James Harker, NHLI  
Dr Carlos Hernandez Aramburo, EEE (6 years)  
Dr Stephen Hicks, NMH  
Miss Nicola Higgins, Sport and Leisure Services  
Professor Robert Hill, Materials (9 years)  
Miss Jemima Hills, EPHPC  
Ms Elaine Homer, Faculty of Medicine (13 years)  
Dr Xiaopeng Hu, Computing  
Dr Tetsuro Ikeda, Medicine  
Ms Rebecca Jacobson, Faculty of Medicine  
Dr Maria Joannou, Investigative Science  
Mr Yousef Kamil, EEE  
Dr Eleanna Kazana, Biology  
Dr Siobhan Keenan, NMH  
Miss Gaelle Kikonda Kanda, NHLI  
Mrs Fiona Kirk, Development and Corporate Affairs (5 years)  
Dr Andreas Kronenburg, Mechanical Engineering (8 years)  
Mr Steven Lamoriniere, Chemistry  
Dr Benjamin Lasorne, Chemistry  
Dr Verity Leeson, NMH  
Dr Markus Leppold, Business School  
Mrs Woomi Lemonious, Communications  
Mr Wei Li, EEE  
Ms Mayasari Lim, Chemical Engineering and Chemical Technology  
Ms Alexandria Lipka, Cell and Molecular Biology (7 years)  
Miss Vanessa Lock, EYEC  
Dr Andrey Lyalin, Physics  
Dr Anxin Ma, Materials  
Dr Stella Major, EPHPC  
Dr Vincenzo Mallardo, Aeronautics  
Dr Sabira Mannan, NMH (11 years)  
Mr Alberto Marocchino, Physics  
Dr Jonathan Marshall, Mathematics  
Dr Dario Martelli, Physics  
Dr Kostas Masselos, EEE  
Miss Jenny McCallen, ICT (18 years)  
Mr Lin Mei, Computing  
Mr Clive Mendes, Library (14 years)  
Dr Cosetta Minelli, NHLI  
Miss Melissa Morris, Catering  
Dr Ismael Navarro Fuertes, Chemistry  
Dr Mikhail Neklyudov, Mathematics  
Mr Edmilson Neto, Catering  
Mr Brendan Neville, EEE  
Miss Anastasia Niarchou, Physics  
Mrs Haseena Noushad, EYEC  
Mr Bernard O'Hara, Investigative Science  
Mr Samir Ounzain, NHLI  
Miss Maria Papadomanolaki, Library

Mr James Parkinson, Investigative Science  
Mrs Nirmala Patel, Estates (18 years)  
Dr Fanie Pelletier, Biology  
Miss Elizabeth Petchey, NHLI  
Dr Rodrigo Portugal, Molecular Biosciences  
Dr Clive Rosenthal, NMH (8 years)  
Mr Paolo Ruo, Mechanical Engineering  
Mr Nabeil Salama, Biology  
Dr Ahilan Saravanamuthu, Investigative Science  
Mr Sergio Sawh, SORA  
Dr Helmut Schaschl, Medicine  
Dr Alexander Schekochihin, Physics  
Dr Egle Simelyte, Kennedy Institute  
Miss Elizabeth Smith, Library (19 years)  
Ms Ewa Soltys, SORA  
Ms Ranjini Spencer, Registry (22 years)  
Dr Sian Stanley, EPHPC  
Dr Bogdan Stefanski, Physics  
Dr Alison Stubbings, Chemistry  
Miss Clare Symonds, NHLI  
Miss Rebecca Tadman, Commercial Services  
Dr Khadija Tahir, Physics (7 years)  
Mr John Telford, Registry  
Dr Maya Thanou, Chemistry  
Dr Peter Thomason, NHLI  
Dr Corina Tudor, Kennedy Institute  
Dr Katy Turner, EPHPC  
Dr Antony Valentini, Physics  
Dr Vimal Vasu, Medicine  
Mrs Elizabeth Velluet, Library (39 years)  
Dr Andrew Wandel, Mechanical Engineering  
Dr Victoria Williams, Civil and Environmental Engineering (5 years)  
Miss Yuko Yamaguchi, NHLI (5 years)  
Dr Tarek Yousef, Physics  
Dr Sue Zaher, SORA  
Dr Ruth Zeidman, NHLI  
Mrs Lu Zhou, Kennedy Institute

## retirements

Mrs Sabine Grune von Stieglitz, Aeronautics (18 years)  
Dr Jen Ling-Sun, NMH (17 years)  
Professor John Mansfield, Biology (27 years)  
Mr Tom Nolan, Mechanical Engineering (18 years)  
Mr Selemán Rudwan, Catering (7 years)  
Dr Janet Smith, Library (19 years)  
Dr Wenyi Zhong, Physics (17 years)

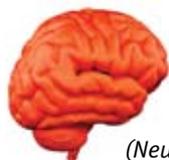
This data is supplied by HR and covers the period 30 November 2008–10 January 2009. It was correct at the time of going to press. Years of service are given where an individual has been a member of College staff for over five years. Asterisk (\*) indicates where an individual will continue to play an active role in College life.

... Please send your images and/or brief comments about new starters, leavers and retirees to the Editor at [reporter@imperial.ac.uk](mailto:reporter@imperial.ac.uk). The Editor reserves the right to edit or amend these as necessary.

moving in. moving on.

### what's on

28 JANUARY 17.30–18.30



#### The plastic brain: skill learning and motor recovery after brain injury

Professor Paul Matthews,  
Chair in Clinical Neuroscience  
(Neurosciences and Mental Health)

Inaugural lecture

Oak Suite, Hammersmith House, Hammersmith Conference Centre

☒ Registration in advance: [l.brown@imperial.ac.uk](mailto:l.brown@imperial.ac.uk)

29 JANUARY 13.00–13.45

#### Lunchtime concert

Amy Dickson (saxophone)

Programme to include Vocalise (Rachmaninoff); Scaramouche (Milhaud); Kiss On Wood (MacMillan)

Read Theatre, Level 5, Sherfield Building

☒ First come, first served

29 JANUARY 18.00 – 19.00

#### Prospects and challenges for the Imperial College Academic Health Sciences Centre

Professor Stephen Smith, CEO of the Imperial College Healthcare NHS Trust



Healthcare seminar

Lower Ground Square Lecture Theatre, Tanaka Building

☒ Registration in advance: [p.egan@imperial.ac.uk](mailto:p.egan@imperial.ac.uk)

4–13 FEBRUARY 08.00–22.00

#### Colours of Ubud

Paintings by Dr Delisa Ibanez Garcia

Blyth Gallery, Level 5, Sherfield Building

► All events are at the South Kensington Campus unless otherwise stated.

9 FEBRUARY 18.00–19.00

#### Darwin's sacred cause: race, slavery and the quest for human origins

Public book launch

Olivia Judson in conversation with Adrian Desmond and James Moore



Great Hall, Sherfield Building

☒ Registration in advance: [events@imperial.ac.uk](mailto:events@imperial.ac.uk)

10 FEBRUARY 17.00–18.00



#### Keeping Britain moving

Andrew McNaughton

33rd Annual Pavior's lecture

Skempton Building

☒ Registration in advance: [c.j.kerr@imperial.ac.uk](mailto:c.j.kerr@imperial.ac.uk)

10 FEBRUARY 17.00–18.30

#### Evolution and the art of music

Roderick Swanston (Humanities)

Darwin Centenary Lecture

Library Cafe, Central Library

☒ Registration in advance: [a.ashley-smith@imperial.ac.uk](mailto:a.ashley-smith@imperial.ac.uk)

12 FEBRUARY 13.00–13.45



#### Lunchtime concert

Leonid Gorokhov (cello),  
Kathryn Stott (piano)

Beethoven—Variations on See the Conquering Hero Comes and Sonata in D, Op. 102, no. 2

Read Theatre, Level 5, Sherfield Building

☒ First come, first served

### take note

#### Find out what the students really think

All staff are invited to attend a presentation on the International Student Barometer (ISB), an independently run survey which provides Imperial with feedback on the student experience.

The survey takes place twice a year, seeking the views of all students at the end of the academic year and specifically targeting newly enrolled students in the autumn.

Students have the opportunity to tell us about their experiences of applying to the College, of learning and living at Imperial, and offer opinions on the level of support Imperial provides.

The presentation will be held on Friday 13 February at 10.30 at the Read Lecture Theatre, Level 5, Sherfield Building on the South Kensington Campus.

► If you would like to attend please email:

[j.wilson@imperial.ac.uk](mailto:j.wilson@imperial.ac.uk)

### classifieds

#### Ealing north apartment to let

Luxury two double-bed professionally decorated and furnished apartment. All mod cons; GCH; private parking and garage; security entry phone. Near Piccadilly and Central lines. No DSS or agents. Immediate vacancy. £245 pw. Please contact Dawn (evenings only): 07910 255497

**To place a classified** please submit no more than 50 words to the Editor, Emily Ross, by email at [reporter@imperial.ac.uk](mailto:reporter@imperial.ac.uk) for a chance for your advertisement to appear. The Editor reserves the right to amend advertisements as necessary.

### volunteering

#### Computer helpers

Project ID: 2145

Organisation: Westminster Libraries

Location: various centres in Westminster

Volunteers are needed to assist Westminster residents aged 50+ with their use of computers. Volunteers should be available at a pre-agreed time in a library or community venue. The job of the volunteers



is to be ready to assist and provide trouble-shooting tips for groups of three to six people. All the residents are beginners so volunteers need to be patient, friendly and have fluent and clear English. You do not need any teaching qualifications but simple use of keyboard, mouse, email and internet is required.

#### **i** For more information

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

- 020 7594 8141
- [volunteering@imperial.ac.uk](mailto:volunteering@imperial.ac.uk)

For full details of over 250 volunteering opportunities visit: [www.imperial.ac.uk/volunteering](http://www.imperial.ac.uk/volunteering)

Subscribe to the weekly newsletter by emailing [volunteering@imperial.ac.uk](mailto:volunteering@imperial.ac.uk)



First published in 1995, *Reporter* aims to share stories of Imperial's community and to highlight individual and College achievements. *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).

The copy deadline for issue 201 is Wednesday 28 January. Publication day is 12 February. Contributions are welcome (no more than 300 words). Please note the editor reserves the right to cut or amend articles as necessary. Information correct at time of going to press.

#### Editor

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