



Field guide

Campus Dean Mick Crawley takes *Reporter* on a guided tour of Silwood **CENTRE PAGES**



**RECTOR OF
IMPERIAL
COLLEGE LONDON**

Sir Roy steps
down, Sir Keith
steps up

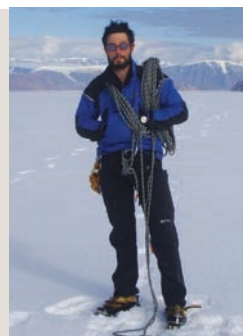
PAGE 3



JOANNA HAIGH

"I watch
thunderstorms
the same way
people watch
fireworks"

PAGE 10



**ARCTIC
EXPEDITION**

Imperial team
explores
uncharted
territory

PAGE 12



EDITOR'S CORNER

Meat-free Monday

Out and about at the start of Green Week, our roving reporters encountered a few disgruntled faces in the SCR and the Queen's Tower Rooms as staff and students realised that a day-long **amnesty on meat** dishes was underway. Last year Dr Rajendra Pachauri, Chair of the United Nations Intergovernmental Panel on Climate Change caused an outcry by saying that people should have one meat-free day a week to help **tackle climate change**. Pachauri's announcement followed publication of UN Food and Agriculture Organisation estimates stating that global meat production generates more greenhouse gas emissions than transport. The estimates consider not only the methane emissions from livestock, but also the delivery of meat products. While one **Meat-free Monday** isn't going to change the world, it did encourage us to see the connection between the things we do in our everyday life and the impact they have on global warming. For more on green week activities see: www.union.ic.ac.uk/green/greenweek.html

EMILY ROSS, EDITOR

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+44 (0)20 7594 6715

Exploring the benefits of art therapy



A new centre has launched at Imperial that aims to explore the potential benefits of using arts therapies to treat physical and mental disorders.

The International Centre for Research in Arts Therapies (ICRA), which launched on 21 September,

will coordinate and carry out large collaborative studies examining how effective arts therapies are for treating people with poor health. Currently, the researchers are running a clinical trial aimed at finding out if attending a weekly art therapy group can help people with long-standing emotional distress.

Arts therapists use painting, drama, music, dance and movement to help patients, such as elderly people with dementia or young children who have experienced trauma, to express their thoughts and feelings.

Previous small-scale research

has suggested that arts therapy can be an effective form of treatment for a range of conditions. The ICRA now aims to carry out larger scale studies and will also support others working in this area by putting arts therapists and researchers in touch with each other. The Centre will be run in collaboration with the Central and North West London NHS Foundation Trust.

—LUCY GOODCHILD, COMMUNICATIONS

To watch a video featuring ICRA President Professor Diana Waller and Treasurer Dr Mike Crawford (Neurosciences and Mental Health) on arts therapies and the ICRA visit: www3.imperial.ac.uk/news/artstherapy

Partnership with Rwanda

Earlier this month, the Rwandan President Paul Kagame visited the College to sign a memorandum of understanding for

educational and scientific cooperation between Rwanda and Imperial. The agreement aims to assist Rwanda in developing its skills base and will offer Imperial opportunities for research, knowledge transfer, training and staff development. Potential areas for collaboration include developing health information systems, improving maternal and child health, exploring ways of harnessing solar and geothermal energy, and supporting university education.



President Paul Kagame (left) with Professor James Durrant, Deputy Director of the EFL

“This is Imperial's first collaboration at an institutional level in Africa,” says Professor Peter Piot, Director of the Institute for Global Health, which has been instrumental in setting up the collaboration. “Global health is just one of the areas that this partnership will address. Solutions lie in combining medical research with expertise in engineering, natural sciences and business skills. Rwanda and Imperial share many interests in these areas, so working together will provide an exciting opportunity for us both to benefit.”

“Working together will provide an exciting opportunity for us both to benefit”

The collaboration builds on existing Imperial projects with Rwanda, including courses in newborn care and obstetric ultrasound led by Dr Tom Lissauer (Paediatrics), to address high mortality levels in mothers, babies and young children. In addition, Imperial students from the Department of Electrical and Electronic Engineering have built a pilot solar charging station in Rwanda as part of the e.quinox project to provide cost-effective, robust and renewable energy to rural communities.

—NATASHA MARTINEAU, COMMUNICATIONS

Imperial College
London

Want to research
abroad?



There are five scholarships available in 2009–10 to provide funding for Imperial staff and students to study or conduct research in Spain, Portugal, Argentina, Brazil, Chile, Colombia, Mexico, Peru, Puerto Rico, Uruguay or Venezuela. Apply now for a place in this year's Imperial College London Santander International Mobility Awards.

Visit: www3.imperial.ac.uk/news/santander

The application deadline is Friday 11 December 2009.

Rector of Imperial College London



On 16 November the Rector, Sir Roy Anderson, announced that he is stepping down from his post in order to focus on his research career

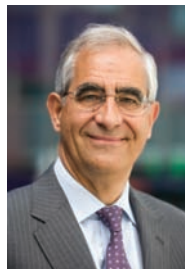
and external advisory commitments. The governing Council of the College has accepted Sir Roy's resignation with deep regret.

Sir Roy will continue to serve as Rector until 31 December 2009, after which he will return to his position as Chair of Infectious Disease Epidemiology within the Faculty of Medicine. Sir Keith O'Nions, Director of the Institute for Security Science and Technology, will serve as Acting Rector from 1 January 2010 until a new Rector is appointed by the Council.

Sir Roy made his announcement in an email sent to staff and students in which he thanked them for their support and explained his decision:

"All my working life I have been, and I remain today, a research scientist and a teacher with a very strong interest in the global problem of infectious diseases and their control. This requires me to maintain a broad range of external roles and I will therefore continue with my international advisory work for both governments and

leading public and private sector bodies around the world. Such activity informs and broadens my academic research, which in turn increases my ability to add value in



my advisory roles.

"I am immensely proud of, and loyal to, Imperial and I shall do all I can from my new position

to ensure that our College maintains its world-leading position of today, and is well-prepared to meet new challenges tomorrow," he added.

Sir Keith O'Nions said: "I am hugely honoured to be asked to follow in Sir Roy's footsteps as Acting Rector. Sir Roy is a scientist I admire greatly who has led the College with enormous skill thanks to his deep understanding based on many years of service. On a personal level I am particularly grateful to him for his vision in developing the Institute where I currently work, and allowing me to be part of this truly exceptional community of academics, support staff and students."

—ABIGAIL SMITH, COMMUNICATIONS

Stephen Richardson appointed Deputy Rector

Professor Stephen Richardson, Principal of the Faculty of Engineering, was appointed Deputy Rector on 9 November and will combine these two roles.

A leading engineer with over 30 years' experience of university education, research and leadership, Professor Richardson said: "Imperial is packed with great people all the way through, and I'm looking forward to working with all colleagues to set the College's priorities for the coming years. To serve as Deputy Rector is a huge honour and I will work very hard to be worthy of it, and to advance the academic mission of this outstanding College."



a number of senior positions including director of undergraduate studies, deputy head and head of department, and was appointed Principal of the Faculty of Engineering in August 2008.

Welcoming his appointment, the Rector, Sir Roy Anderson, said: "Stephen is a highly popular senior academic, who has shown great dedication to Imperial throughout the more than 30 years he has worked here. He has been an outstanding leader within his department and the Faculty of Engineering, and I am delighted that the whole College will now benefit from his skills."

“Imperial is packed with great people all the way through”

Professor Richardson first joined Imperial as an undergraduate student in 1969, and went on to complete his PhD in chemical engineering at the College in 1975. He has held

See Reporter issue 201 for a feature on Professor Stephen Richardson: www8.imperial.ac.uk/content/dav/ad/workspaces/reporter/Reporter201web.pdf

in brief

Supporting diversity

Imperial hosted an event on 29 October to launch the *Stonewall Careers Guide*, which gives information on the approach of employers to support lesbian, gay and bisexual people. The guide mentions Imperial's employee advisory group – Imperial 600 – and its mentoring scheme which is offered to LGBT staff. Rob Millwood (Joint Research Office) who represented Imperial 600 at the event said: "Imperial is now an exemplar in the sector, ensuring the best staff can be recruited to positions at all levels without concern that sexual orientation will be noted other than for confidential monitoring purposes."

www.stonewall.org.uk/workplace/1476.asp



Signal processing centre opens

New methods and techniques for improving how signals are processed will be the focus of the new University Defence Research Centre in Signal Processing, launched at Imperial on 4 November. Researchers from the Department of Electrical and Electronic Engineering will play a key role in the Centre, which has been established to maintain the UK's strong position in the research fields of signal processing and communications for both military and civilian applications.

Global University rankings

The College has moved up one place from 27th to 26th in the 2009 Academic Ranking of World Universities compiled by researchers at Shanghai Jiao Tong University in China. Imperial has also maintained its position as 4th in the UK. In the subject tables, the College's global ranking increased for natural sciences and mathematics, clinical medicine and pharmacy.

“Universities can play a key role in promoting dialogue and understanding between different ethnic and faith groups simply because of our great diversity.”

DR RODNEY EASTWOOD, COLLEGE SECRETARY AND CLERK TO THE COURT AND TO THE COUNCIL, SPEAKING AT THE UNIFAITH CONFERENCE HELD AT IMPERIAL ON 16 NOVEMBER. STUDENT REPRESENTATIVES OF EIGHT RELIGIONS SHARED INSIGHTS FROM THEIR FAITHS TO MARK THE BEGINNING OF NATIONAL INTERFAITH WEEK.

Imperial College Healthcare NHS Trust

New acute imaging centre for St Mary's

Thousands of Imperial College Healthcare NHS Trust patients will benefit from rapid diagnostics with the opening of a £4 million acute imaging centre. Based close to A&E in St Mary's Hospital, the new facility will house a state-of-the-art GE 3-Tesla MR scanner, the first in Europe, and a 256-slice CT scanner, the first in the UK.

Mr Bruno Tonello, Imaging Services Manager, said: "With our new high tech imaging centre we'll be able to answer most diagnostic questions for our patients allowing clinicians to plan their treatment more effectively. The centre will perfectly meet the needs of critically ill patients who urgently require diagnostic scanning."

The Centre will also support new trauma services planned for St Mary's next year and increase the number of scans the Trust can carry out. Previously when a full body scan was required this was done in increments, whereas whole areas can now be scanned at once.

Mr Tonello continued: "The speed and image quality of both machines means we can scan an increasing number of patients non-invasively. For example in vascular imaging we'll be able to assess more patients on an outpatient basis, avoiding the need for invasive procedures like angiograms where patients' blood vessels are injected with contrast agents and then X-rayed."

The new CT scanner can also examine perfusion – the rate at which blood is pumped through the brain and solid organs – in more detail, allowing more accurate and timely diagnosis of conditions like stroke, cancer and infection.

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

'Self-manufacturing pill' wins students international prizes

A project to develop a self-manufacturing pill which can produce a drug inside itself and then automatically encapsulate the drug into a neutral delivery system won a team of Imperial students a clutch of prizes at the 2009 International Genetically Engineered Machines (iGEM) competition at MIT held earlier this month.

The team, which comprised eight students from the Departments of Bioengineering and Life Sciences, won two major prizes in the competition. For the second year running, Imperial won the prize for the best manufacturing project, and the team was also awarded the prize for the best consideration of ethical issues in relation to device design, and a gold medal. There were 120 competing teams from top universities worldwide in this year's competition – the Imperial team came fourth overall.

The iGEM competition is an international



The Imperial students and academic supervisors celebrate their awards at the iGEM jamboree

celebration of students' achievements in synthetic biology, an emerging field in which engineers work with molecular bioscientists to produce biologically-based engineering parts, by modifying bacterial DNA.

The Imperial student team worked for four months to design and create the Encapsulator – a self-manufacturing pill that began life as a simple bacterial cell. Uniquely, the team also manipulated the cell so that once the drug had been produced, the cell grew an acid-resistant shell enabling the drug inside to be safely

delivered past the stomach to the human intestine.

Professor Richard Kitney (Bioengineering), who co-led Imperial's students along with Professor Paul Freemont and Dr Geoff Baldwin from the Department of Life Sciences, congratulated the team, saying: "The idea of having an all-in-one bacterial drug production and pill-like delivery unit is revolutionary. It could offer a low-cost, simple and efficient way of producing drugs that can be safely delivered to the human intestine."

—DANIELLE REEVES, COMMUNICATIONS

Bridge wins award with a little help from Imperial students



The award-winning Infinity Bridge, Stockton-on-Tees

An iconic bridge completed in December 2008 that began life as a scale model constructed by Imperial students has won a prestigious award.

Engineers from the consultancy firm Expedition Engineering won the Institution of Structural Engineers' Supreme Award for Structural Engineering in October 2009 for the design of the Infinity Bridge in Stockton-on-Tees.

Second and third year engineering undergraduates who studied at Imperial in 2004 and 2005 played an instrumental role in constructing designs of the bridge, as part of the College's *Constructionarium* project. This project gives undergraduates the opportunity to spend a week out in the field using construction materials and methods to create

structures such as buildings, bridges and dams.

Dr Sunday Popo-Ola, (Civil and Environmental Engineering) who is a tutor on the *Constructionarium* project, said: "Building a replica of the Infinity Bridge really helped the students to experience some of the difficulties of working on bridge projects. The students learnt a lot about how to construct bridge foundations in running water and gained new insights into the resources, time constraints and manpower needed to bring these structures to completion. The students also helped Expedition Engineering to see the best way to put the bridge together."

—COLIN SMITH, COMMUNICATIONS

To see a slideshow of some of the *Constructionarium* projects visit: www3.imperial.ac.uk/news/constructionarium

media mentions

—AMNA SIDDIQ, COMMUNICATIONS



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GUARDIAN.CO.UK ▶ 10.11.2009

Pay disparity between male and female doctors

A new study which examined the pay of 1,015 NHS doctors has revealed that male doctors earn an average of £15,245 more than their female colleagues, reports *The Guardian*. Researchers, says the report by the BMA, blame discrimination and a 'hostile' workplace culture. One of the authors, Professor Anita Holdcroft (SORA), said that male NHS managers took advantage of women's poor negotiating power.



"The man will often recognise the weak-

ness of the woman's negotiating position because she has children and so can't move," she said. Professor Holdcroft added: "Discrimination is the only way that we can explain the gender pay gap."

THE TIMES ▶ 12.11.2009

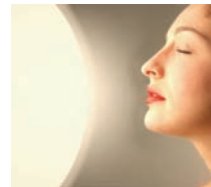
Promising new gene therapy for muscular dystrophy

Gene therapy that increases the size and strength of muscle tissue could soon be used to treat neuromuscular disorders such as muscular dystrophy, reports *The Times*. In a new US study, published in the *Journal Science Translational Medicine*, six monkeys received the treatment, which modifies the body's natural regulation of muscle growth, resulting in the growth of their leg muscles and a long-lasting effect on their muscle mass and tone. Professor Dominic Wells (Neurosciences and Mental Health) described the findings as hopeful but said: "If you don't address the underlying genetic defect then you could just get a larger amount of weak muscle." He said it was likely that the full benefit of the technique would only be seen in combination with other treatments.

REUTERS.COM ▶ 14.11.2009

LED device offers new hope for acne sufferers

A British company is launching a novel handheld device to treat acne, reports *Reuters*. The LED



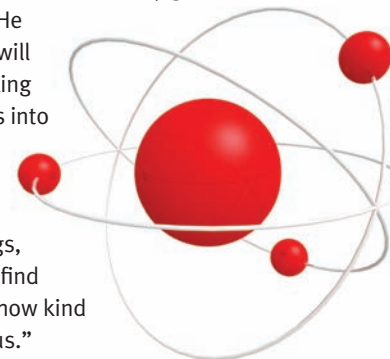
device that combines red and blue light of certain frequencies

can have a dramatic effect on acne, and repair the skin, manufacturers claim. Dr Rakesh Patalay (Investigative Science) says he sees the device as beneficial because patients can use it themselves. "What this device enables patients to do is take control by buying a product that has been shown to work and to use it, usually in conjunction with other treatments that they are already being given."

GUARDIAN.CO.UK ▶ 18.11.2009

Big bang machine to get a second chance

After an unsuccessful launch last year, the machine that aims to recreate the conditions immediately after the Big Bang is due to set off again, reports *The Guardian*. At the Large Hadron Collider (LHC) based at CERN, scientists are eager to get positive results the second time around. Imperial Professor Jim Virdee (Physics), spokesman for the machine's giant CMS (Compact Muon Solenoid) detector, says: "There's a mood of great anticipation here. We're cautiously optimistic and looking forward to finally getting going." He added: "We will soon be making great inroads into new territory. We'll be looking for new things, but what we find depends on how kind nature is to us."



awards and honours

BUILDING PROJECTS

Success for Central Library refurbishment



The Construction Institute of Building (CIOB) held its annual Construction Manager of the Year Awards in October, where Pat Thornton from refurbishment company AOB was nominated for his work on the Central Library Refurbishment at the South Kensington Campus. Mr Thornton was

nominated in the category of New Build/Refurbishment Projects over £5 million to £7 million.

MEDICINE

Student honoured for problem-based learning

Husain Khaki, a Medicine undergraduate, has been named the best Imperial College London student for problem-based learning in the Doctor-Patient module in the undergraduate medicine course. The ceremony took place on 21 October where Professor Beedham, Master of the Apothecaries, awarded Husain for his work and commended the concept of problem-based learning. Problem based learning uses appropriate problems to increase knowledge and understanding.

BUSINESS

Developing managers and leaders

On 25 September, Imperial won an award for its commitment to developing managers and leaders, at an awards reception hosted by the Chartered Management Institute. This award recognises the quality and consistency of support for management development



School of Economics in the development of a diploma programme,

led by the Learning and Development Centre. Imperial has a seven-year relationship linking CMI and London

and is currently seeking CMI accreditation for internal programmes which will allow staff to achieve diploma status.

ENGINEERING

Society of Petroleum Engineers

Professor Alain Gringarten, Chair in Petroleum Engineering and Director of the Centre for Petroleum Studies (Earth Science and Engineering), was given Honorary Membership of the Society of Petroleum Engineers at their annual technical conference and exhibition, held last month in New Orleans, USA. Professor Gringarten was recognised for being an inspiration to petroleum engineers and for decades of outstanding service to the Society.



Drug shrinks lung tumours in mice

A potential new drug for small cell lung cancer eliminated tumours in 50 per cent of mice according to a new study published in *Cancer Research* on 10 November. The drug also stopped lung cancer tumours from growing and becoming resistant to treatment in the mice.

One in five people with lung cancer has the small cell variety and only three per cent of them are expected to survive for five years. The new drug was able to

completely shrink tumours away in some mice, and it also helped other forms of chemotherapy to work more effectively. The researchers hope that it could improve the life expectancy of small cell lung cancer patients.

Previous studies have shown that these tumour cells are fuelled by a growth hormone called FGF-2. The researchers looked at the effect of a drug called PD173074, which prevents FGF-2 from attaching to the tumours. The drug stopped cancer cells from proliferating and becoming resistant to treatment. In one animal model, the drug eliminated tumours in 50 per cent of mice and in a similar mouse model, the drug enhanced the effect of chemotherapy.

Professor Michael Seckl (Medicine), author of the study, said: "This research suggests that it may be possible to develop the drug into a new targeted therapy. We hope to take this drug, or a similar FGF-2 inhibitor, into clinical trials next year to see if it is a successful treatment for lung cancer in humans. An added bonus is that this drug could be taken orally, which is less invasive than some therapies".

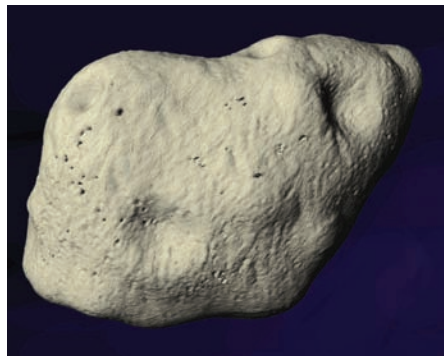
—LUCY GOODCHILD, COMMUNICATIONS

New insights into four billion-year-old meteorites

Scientists have gained new insight into the makeup of ancient meteorites called carbonaceous chondrites, in research published in the October edition of the journal *Earth Science and Planetary Letters*.

Carbonaceous Chondrites are made up of the dust that formed the solar nebula, which is the cloud of dust and gas that made up our early solar system before rocky planets such as Earth and Mars were formed. The asteroids are 'chemically primitive', which means that none of the chemical elements of which they are composed have been moved around, taken out or added since they formed 4.56 billion years ago. This makes Carbonaceous Chondrites valuable for understanding what conditions were like in the early solar system.

In the new study, Imperial researchers reveal that the particles which make up Carbonaceous Chondrites are much



finer than previously thought – each being approximately 10 to 100 nanometres in size. These tiny grains severely restricted the flow of water through the rock.

This explains why soluble elements such as sodium and chlorine are still present in Carbonaceous Chondrites that have fallen to Earth, in spite of the presence of water.

Dr Phil Bland (Earth Science and Engineering), the lead author of the research, he explains: "We couldn't understand why Carbonaceous Chondrites didn't seem to follow the same geological rules as other rocks in space and on Earth. In previous studies, computer models predicted that water should have dissolved and transported the soluble material, and yet the geological evidence clearly showed that this was not the case."

—COLIN SMITH, COMMUNICATIONS



Digital 'plaster' undergoes first trials

A wireless digital 'plaster' that can monitor vital signs is being tried out with patients and healthy volunteers at Imperial College Healthcare NHS Trust, in a new clinical trial run by College researchers.

The device, Toumaz Technology's Sensium™ digital plaster, sticks to a patient's chest and is designed to allow

patients to have their health monitored continuously without being wired up to bulky, fixed monitoring machines, potentially freeing some patients from their hospital beds. It

contains a wireless, ultra-low power sensor which can monitor a range of vital signs like body temperature, heart rate and respiration in real time.

The intention is that healthcare professionals will be able to access the information via mobile phone, enabling them to identify any changes in their patients' status on a 24/7 basis, allowing early detection of any unforeseen complications.

The team hopes that the plaster will enable some patients to recuperate at home rather than in hospital. It should also mean that hospital in-patients have greater mobility. In addition, it could allow doctors to extend continuous monitoring of vital signs to a broader range of patients.

The digital plaster is based on innovative technology created by engineers at Imperial, led by Professor Chris Toumazou (Institute of Biomedical Engineering). He said: "We're hoping that it will improve the health and well-being of a vast range of patients – from patients on a general hospital ward to people with chronic diseases who want to have their health monitored without having to keep visiting the hospital."

—LAURA GALLAGHER, COMMUNICATIONS

“We're hoping that it will improve the health and wellbeing of a vast range of patients”

HIV vaccine failure probably caused by virus used



The recent failure of an HIV vaccine was probably caused by the immune system reacting to the virus 'shell' used to transmit the therapy around the body, according to research published on 16 November in the *Proceedings of the National Academy of Sciences*.

The trial, called 'STEP', was halted in September 2007 because preliminary results suggested that people who had been given the vaccine were more likely to be infected with HIV than

people who had been given a placebo.

The vaccine used an adenovirus, which normally causes the common cold, to enable the vaccine therapy to travel around the body.

Today's study suggests that after receiving the trial vaccination, people who had previously built up immunity to the adenovirus had an influx of immune cells called CD4 T-cells homing in on their mucous membranes, as these cells prepared to fight off a new adenovirus infection. Mucous membranes are found in areas including the nose, mouth, vagina and gut. HIV naturally infects CD4 T-cells, so this inadvertently provided HIV with an abundance of potential new homes at the sites where the virus would naturally enter the body during sexual intercourse, thereby increasing people's risk of infection.

Dr Steven Patterson (Investigative Science), corresponding author of the study, said: "Scientists are currently developing adenovirus-based vaccines to protect people against TB and malaria as well as HIV, but they may have to rethink these vaccines if the effect we describe in our new paper is a problem for all of them."

—LUCY GOODCHILD, COMMUNICATIONS

New research helps explain why bird flu has not caused a pandemic

Bird flu viruses would have to make at least two simultaneous genetic mutations before they could be transmitted readily from human to human, according to research published in *PLoS ONE* on 18 November.

The authors of the new study, from Imperial, the University of Reading and the University of North Carolina, USA, argue that it is very unlikely that two genetic mutations would occur at the same time.

The new study adds to our understanding of why avian influenza has not yet caused a pandemic. Earlier this year, the Imperial researchers also showed that avian influenza viruses do not thrive in humans because, at 32 degrees Celsius, the temperature inside a person's nose is too low.

"It's important that scientists keep working on vaccines so that people can be protected if such an event occurs."



Professor Wendy Barclay (Investigative Science), corresponding author of the study from Imperial, said: "Our new research suggests that it is less likely than we thought that H5N1 will cause a pandemic, because it's far harder for it to infect the right cells. The odds of it undergoing the kind of double mutation that would be needed are extremely low. However, viruses mutate all the time, so we shouldn't be complacent. Our new findings do not mean that this kind of pandemic could never happen.

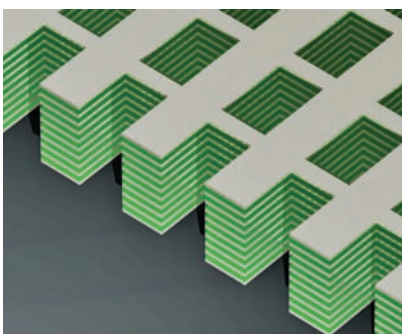
It's important that scientists keep working on vaccines so that people can be protected if such an event occurs."

H5N1 has a high mortality rate in humans, at around 60 per cent, but to date there has been no sustained human to human transmission of the virus, which would need to happen in order for a pandemic to occur.

—LUCY GOODCHILD, COMMUNICATIONS

Developing 'invisibility cloaks' and 'perfect lenses'

On 12 November, Imperial received a £4.9 million funding boost from The Leverhulme Trust, for research into designing and building unique 'metamaterials'. Metamaterials can be used for invisibility 'cloaking' devices, sensitive security sensors that can detect tiny quantities of dangerous substances,



and flat lenses that can be used to image tiny objects much smaller than the wavelength of light.

The new grant has been made to a team of Imperial scientists and engineers, who, in collaboration with scientists at the University of Southampton, will develop new applications for metamaterials that can bend, control and manipulate light and other kinds of electromagnetic waves. Metamaterials is an emerging field of science lying at the borders of physics and materials science. The concept relies not on clever chemistry, which is normally used to create new materials, but instead on creating clever patterns on the surface of existing materials, particularly metals.

The new grant is one of two that

The Leverhulme Trust is awarding for 'embedding emerging disciplines'. The project team is led by two of Imperial's professors from the Department of Physics: Professor Sir John Pendry, a world-leading physicist and pioneer in the field, who first proposed that metamaterials could be used to build an invisibility 'cloak' in 2006, and Professor Stefan Maier who is a leading experimentalist in the field of plasmonics. Also collaborating in the project is Professor Nikolay Zheludev's team at the University of Southampton.

Sir John says that the new grant will help British universities to develop real-world metamaterial applications based on his theories, including the much-coveted optical invisibility cloak,

which would render an object invisible to the human eye:

"We've shown that an optical invisibility cloak is theoretically possible: the big challenge now is to build it. This is just one of the many extremely exciting potential uses of metamaterials that we'll be exploring with our colleagues at Southampton, thanks to this new grant from The Leverhulme Trust," he explained.

—DANIELLE REEVES, COMMUNICATIONS



Park life

With 110 hectares of grassland, lakes and woods – Silwood Park Campus in Ascot, Berkshire, is a magnet for rabbits, deer, foxes, rare butterflies, birds and fungi, and the ideal location for biological research. Campus Dean, Professor Mick Crawley, who has been at the campus since 1971, gives *Reporter* a guided tour and an insight into the Silwood spirit.

Professor Mick Crawley is a popular, enthusiastic plant ecology lecturer, a familiar face on the makeshift croquet lawn in front of Silwood Manor House and the person to seek out if you have a burning question about the history of Silwood Park.

Mick explains that the grounds have a rich heritage dating back long before 1947 when the College acquired the campus. Silwood was once part of William the Conqueror's vast Royal Hunting Forest after his invasion, it was converted into a British Army Hospital during the Second World War, and it was also at the heart of the Ascot races party scene in the 1880s. "What makes the campus so unique is that there are still so many traces of its history," Mick says.

The first stop on the tour is the Manor House which was built in 1878 and remains the most iconic site on the grounds. Mick points out the winding path leading from the main road up to the house. "The path was built deliberately bendy to tease visitors driving up in horse carts into

thinking the grounds are bigger than they are," he says.

The Manor House is a red-brick Victorian mansion which Mick says was built for Charles Stewart – a distinguished engineer keen on horse racing and partying, and was designed by Alfred Waterhouse, the architect of the Natural History Museum in South Kensington. It was made for parties and Stewart often entertained the sons of Queen Victoria and other Ascot socialites. The building features high-ceilinged rooms on the ground floor, a central ballroom, and a conservatory.



“It is such a luxury to be able to do my fieldwork within a few yards of the laboratory”

When Mick first arrived at the College to study for a PhD in ecology, all campus activity took place in the Manor House. Students used the library and lecture theatre on the ground floor, staff worked on the first floor and all the students lived three to a room on the top

floor – which used to be home to the servants in the Eighteenth century.

Today all the teaching has moved out into more modern facilities and there are five student residences. The first three separate teaching facilities were built in 1987 – Munro, Lees and Kennedy – and the newest is the newly refurbished Hamilton Building which now features four new lecture rooms, state-of-the-art computing and fieldwork laboratories, plus greenhouses and controlled environment rooms.

Walking to the north of the campus, the tour stops at its most intriguing facility – the nuclear reactor which has been in operation since 1965 and has been used for teaching, research and analysis. With a power output 10,000 times smaller than that of an average nuclear power station – 100kW (equivalent of about 30 kettles) – the reactor also differs in not generating electricity. Its power output is instead dissipated as waste heat.

Mick explains that William Penney – the British nuclear physicist who led Britain's development of the atomic bomb and who worked at Imperial until the end of the war – was instrumental in



Clockwise from top left: the Manor House – Silwood's Victorian mansion; one of Silwood's ancient bundle-planted trees; Professor Donald Quicke (Biology) enjoying Silwood's Japanese gardens; Staff and students relaxing after a February willow harvest; Students on the MSc in Ecology, Evolution and Conservation in October 2009 returning from the field with their biomass samples; Silwood staff victorious over students in this year's staff vs student cricket match.



helping the College to gain planning permission for the reactor. Although the reactor ceased commercial services at the end of April 2008, the College is considering whether it has possible future research uses or if it should be decommissioned.

The grounds

In 1989 Mick was put in charge of the Silwood estate and he admits to becoming 'a little obsessed' with its arbo-retum (collection of trees) which date back to the 1780s and to which he has added over 500 new trees.

Walking around the campus, Mick demonstrates his enthusiasm for ancient oaks and 'bundle-planted' trees and his pride in the Japanese garden which features a pagoda and lily pond and was developed in the late 1920s by Sir George Dolby who had made his fortune from tea plantations in Assam and through various dealings in the Americas.

Silwood's grounds are a huge draw for staff and students. In addition to 16 high-tech greenhouses, the natural habitats act as outdoor laboratories for ecological research. Mick says the grounds also give researchers the chance to do long-term experiments and he points out an experiment he has been running since 1979, looking at the impact of rabbit grazing on plant community structure in Nash's field. "It is such a luxury to be able to do my field-work within a few yards of the laboratory," he says.

Green living

Many staff and students think of Silwood as an extension of their homes and grow plants and vegetables in allocated allotments on the grounds.

The chicken coop is the next stop on the tour and is the latest student initiative pioneered by research

associate Alexa Lord (Biology), who has helped to rescue 24 chickens from battery hen charities. Staff and students help to look after them and get free eggs in return.

Mick comments: "In 1947, when students first came through Silwood's doors, they were almost entirely self-sufficient – growing potatoes, keeping pigs and chickens – essentially living off the land. I feel like we are returning to our roots, the latest cohort of students is definitely the greenest we have had in my time here."

Atmosphere

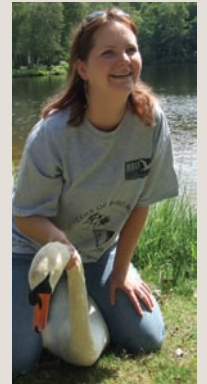
One of the most noticeable things about Silwood is that it is a friendly and close-knit community. Speaking to Dr Albert Phillimore, a research associate at the campus and a new Junior Research Fellow, he says; "What struck me when I started is how PhD students can chat freely with professors over lunch – there's a real open door policy. The atmosphere is relaxed – even though everyone is really engaged with their work, almost everyone stops for coffee at 11.00, and on Friday at 17.00 you can guarantee a huge proportion of the Department of Life Sciences will be at the bar."

In driving the Campus' social life, Mick looks to Professor Sir Richard Southwood (a director of Silwood during the 1970s) for inspiration. "Dick was an inveterate social engineer and wouldn't let a few months go by without a big do to look forward to – from the Christmas lunch to the summer ball. Everyone was expected to attend these social functions, and encouraged staff and students to socialise together. This type of interaction lives on at Silwood and I'm keen to ensure that, however the campus develops in the future, this Silwood spirit remains."

—EMILY ROSS, COMMUNICATIONS

Life at Silwood

Alexa Lord, research associate (Biology), has been at Imperial for six years.



Tell me about your research

It mainly focuses on how climate change will affect the food chains that birds rely on, and how well adapted they are to cope with these changes.

Have you seen any rare birds on the grounds?

I run a bird ringing project on site, which involves catching birds and then placing an individually numbered metal ring around their leg and collecting some basic data on them. This data goes off to the British Trust for Ornithology and is used in conservation planning and scientific research. Last week we caught two firecrests in Silwood, which are really rare.

What do you enjoy most about working at Silwood?

I'm given a lot of freedom and support to develop new research ideas and skills here, which differs from a lot of other universities I've visited, where postdocs tend to have much less autonomy. For example, I'm off to Nigeria in January for a month to work as a volunteer lecturer out there on an MSc course that aims to train Nigerian biologists to a higher standard in ornithology and conservation. Not only do I get to contribute towards this great initiative, but I also get to work on developing some new research ideas for ongoing projects whilst I'm out there.

What is your best Silwood memory?

Perhaps seeing fox cubs in the bluebell field and lying down to photograph them. A couple of minutes later my ear was tickling and when I looked around, one of them had crept up behind me and was sniffing my ear!

Describe the Silwood spirit

There is very little formality – people socialise together as well as work together. A big effort is made to include everybody in everything that is going on, and the people who thrive here are the ones who make the best of every opportunity and try to contribute something new themselves. I've never been at any Silwood event, or walked into coffee or the bar and had to sit on my own – people always make the effort to talk to you.





The forecast for physics

Eleven months on from becoming Head of the Department of Physics, *Reporter* speaks to Professor Joanna Haigh about her passion for thunderstorms, her pride in the number of female physicists in the Department, and the importance of getting more graduates into teaching.

There were some early clues that Joanna (known to all as Jo) was going to end up in a meteorologically-related career. From the age of 11 she kept a makeshift weather station and everyday she meticulously recorded the rainfall using a handmade rain gauge and noted the temperature using a Max Min thermometer donated by her GP father.

After taking a degree and DPhil at Oxford, and an MSc at Imperial, Jo joined the College as a Lecturer in 1984 and moved swiftly through the ranks. She was promoted to Professor of Atmospheric Physics in 2001, Head of the Space and Atmospheric Physics Group in 2007 before becoming Head of Department of Physics in January this year.

Research

Jo has an infectious enthusiasm for the weather. Looking out of the window at the clouds on the ninth floor of Blackett she confesses to being continually amazed: "I still can't get over seeing all those amazing structures and trying to understand how it can be so hot one day and cold the next. I watch thunderstorms the same way people watch fireworks – to me it's a natural show!"

Over the years Jo's research has concentrated on the changes in the stratosphere – the part of the atmosphere above the place that the weather occurs – and she investigates how human activity might influence the composition of the stratosphere and its temperature structure.

Jo's natural affinity for physics has seen her gain a number of high profile accolades including the Institute of Physics Charles Chree Medal and Prize (2004); and she is a Fellow of the Institute of Physics and of the Royal Meteorological Society. However she is aware that not everyone shares her passion for physics. She recalls being the only pupil in her all-girls school studying A-level physics who enjoyed it. Jo says she is absolutely delighted that this year 34 per cent of the Department's undergraduates are women.

"Physics is often wrongly portrayed as geeky, nerdy and not applicable to society – people don't understand that physics is a fundamental science underlying all other sciences – it explains

how the world works. Without these key areas of understanding, science would be way behind where it is now."

Over the past few years many physics graduates have achieved successful careers in the city as well as in the academic field but Jo would also like to see more graduates go into teaching, and encourage the next generation of students to choose to study physics. She says that the Department has been working on introducing a new undergraduate degree to Imperial which combines physics and a teaching qualification. This is something Jo feels very strongly about: "Schools are absolutely crying out for physics teachers who are really passionate about the subject. Teachers who are physicists themselves are the best people to enthuse the next generation of researchers."

Physics in practice

As an example of just how applicable physics research is, Jo points to the Photonics Group, which is developing instruments that could be used for medical imaging and to help diagnose tumours.

She also enthuses about the research being conducted on developing solar photovoltaic cells which collect energy from the sun. She says: "We are looking at creating technology to make the collectors more efficient, and to produce the cells more cheaply which will be vital for rolling out this technology to the developing world."

Climate change has had a growing impact on physics. Jo was a lead author of the Intergovernmental Panel on Climate Change Third Assessment, published in 2001, and now works closely with the Grantham Institute. "We don't know how global warming will play out in terms of regional effects and seasonal variations," she says, "but with the help of advanced computer modelling, physicists can construct huge models of the atmosphere and simulate climate change patterns to gain a more thorough understanding,"

As for the most high profile research in the Department – all eyes are on the Large Hadron Collider at CERN after it was switched back on this month. Following the 14-month hiatus while the machine was being repaired, the search for signs of the Higgs Boson – a sub-atomic particle, crucial to our current understanding of physics – has caught the public's imagination. On visiting CERN earlier this year, Jo says: "You can't imagine the scale and complexity of the thing until you actually see it. There is a really nice sense of team spirit and excitement in terms of the potential results for fundamental physics."

– EMILY ROSS, COMMUNICATIONS

inside

story

mini profile

Lars Frederiksen

Dr Lars Frederiksen (Business School) on developing the world's first eco city.

You specialise in innovation management – what is that?

I work on how innovation is spurred, supported and managed within firms which specialise in infrastructure such as water, roads and energy. Innovation typically involves a large range of people and projects around the globe.



What key projects have you been working on?

Over the past three years I have been working closely with consultancy firm Arup on the design of the world's first ecocity in Dongtan, situated close to Shanghai in China. The project is called BP Urban Energy Systems and is part of the Energy Futures Lab. There are hundreds of different contributors to the project and my colleague Dr Andrew Davies from the Business School and I have been studying how the different knowledge bases have been integrated in order to deliver innovative solutions.

Why is Dongtan such a unique project?

It is one of the first times anyone has developed a masterplan for a utopian city which is healthier, more sustainable and better for people. The project has a massive remit.

Can you give me an example of some of the challenges?

We were looking at how the design process involved everything from green transport and how hospitals would remain carbon neutral, to bringing in a barcoding system to keep track of waste flows.

The Dongtan project is on hold now for funding reasons – do you feel your time has been wasted?

Definitely not. Not only has the research provided valuable data for developing research papers but also Andrew and I have set up a global network called Ecocit for researchers who are engaged in studying how to make cities both ecologically and economically sustainable. Large research proposals have already been submitted with partners in China and the US, as a result of this collaboration.

—EMILY ROSS, COMMUNICATIONS

inventor's corner

Tackling lung diseases

Professor Peter Barnes (NHLI) joined the College in 1985, becoming Head of Thoracic Medicine two years later. He is a co-founder of RespiVert, an Imperial spin-out company developing a novel treatment for chronic obstructive pulmonary disease (COPD) using inhalable drugs.



COPD refers to chronic bronchitis and emphysema, a pair of commonly co-existing diseases of the lungs in which the airways become narrowed. COPD affects 10 per cent of the UK population aged over 40, is the most common cause of hospital admission in the UK and is the only frequent cause of death to have increased in prevalence over the last 40 years.

Peter explains that a key issue with the current treatments is that they cannot relieve the inflammation caused by the disease, which is resistant to steroids. Those treatments which have some impact on the inflammation, are relatively toxic so can only be taken in very small doses, limiting their usefulness.

The drugs RespiVert is developing are different from current treatments for COPD in a number of ways.

They're effective against steroid-resistant inflammation, tests to date have shown no dangerous levels of toxicity in RespiVert's drugs and they have functional benefits in that they are inhalable and site specific. Finally, some of the drugs under development have other 'bonus' effects, such as the ability to limit viral infections in COPD patients, so they can treat one of the exacerbations of prolonged inflammation as well as treating the inflammation itself.

RespiVert was founded in 2007 with help from Imperial Innovations, and the company has labs in the Imperial Bioincubator on the South Kensington Campus. Peter says "working in the bioincubator has been a real boost: being so close to other start-ups has meant we're all able to offer each other advice and assistance".

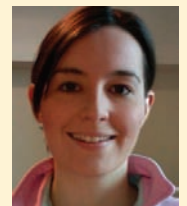
—GAVIN REED, IMPERIAL INNOVATIONS

Q www.imperialinnovations.co.uk

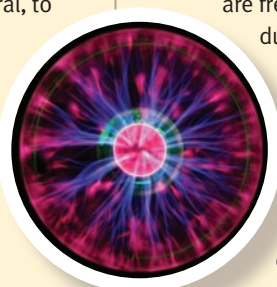
▶ SCIENCE FROM SCRATCH

As explained by Chloé Sharrocks, MSc Science Communication

Plasma



Plasma is a gas which contains a high quantity of electrically charged particles that are free to move. These unbound charges give the plasma the ability to conduct electricity and mean that plasma can respond strongly to electromagnetic fields. Plasmas make up more than 99 per cent of the visible universe and are commonly found in lightning, fires, neon lights and the plasma displays of televisions. First discovered in 1879 by Sir William Crookes, the name is thought to have arisen from the fact that plasmas carry particles, in a similar way to blood plasma in which our blood cells are suspended. A gas becomes plasma when heat or other energy causes a number of atoms to release their electrons making the gas ionised. Like a normal gas, plasmas do not have a specific shape nor do they occupy a certain volume, but unlike gases they can be influenced by magnetic fields and form structures such as filaments.



Is there a phrase or term you would like us to explain? ✉ Email the editor: reporter@imperial.ac.uk

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

Student blogger Naser on tightening the purse strings:

So at the moment one trip on the bus using an Oyster card is £1. You may think this isn't so much – but if you take the bus into College twice a day for a week, that is quickly £10. That doesn't include random trips to places which seemed far away when you lived at home and had a car (or a parental taxi) to take you there. Now, however, walking is suddenly looking a lot more attractive – and it's a much more healthy way to get slim for those of you who are always dieting... not eating isn't a viable option, people!



www.imperial.ac.uk/campus_life/studentblogs

blog
SPOT

New heights

A team of intrepid Imperial mountaineers recently completed a month-long expedition to explore a remote and hitherto unexplored peninsula in east Greenland, sponsored by the Imperial College Exploration Board. The main objective was to make ascents of unclimbed mountains in Renland at the end of Scoresby Sund, the longest fjord in the world. Dr Dominic Southgate, a postdoc in the Department of Bioengineering, led the four-man team to the Arctic. He says: "We spent three weeks exploring and climbing peaks. We had to find our way across glaciers, cross rivers and establish our route. We didn't know what to expect in terms of the terrain. We



Dominic Southgate (Bioengineering) spent a month exploring a remote and unexplored peninsula in east Greenland

“it is such a wild and unexplored place, untouched by man”

were a bit apprehensive at first as the mountains rose straight out of the fjord, but in the end we climbed three new peaks and two new routes." The team documented the geology and plant life of the region, encountering musk oxen, arctic hares and a variety of birds: the ter-

rain was a lot greener than was expected. "The best bit was the remoteness," Dominic says, "it is such a wild and unexplored place, untouched by man. Being the first humans there was a pretty amazing feeling,"

— EMILY GOVAN, INTERNATIONAL OFFICE

top tips

Saving cash

Since the credit crunch hit, the 'spend today and worry tomorrow' culture has gone out the window and everyone is looking for ways to curb spending. Here are some tips from the Employee Assistance Resource (EAR) that can help you become more financially secure without missing out on the things which are important to you.

Ideas for boosting your income

1. Let a room. Letting a spare room, even for a short period, can substantially help increase your monthly income.

2. Sell your unwanted stuff. Hold a car boot or garage sale, or sell your unwanted items on internet auctions sites like eBay.

3. Sell your story. If you have a gripping or extraordinary tale to tell, why not get paid and have it published? Many magazines will also pay a premium for interesting letters and amusing photographs, and some TV channels will pay for videos too.



4. Let a parking space. If you live in an area where parking is expensive and you have got an empty

space in your driveway, you could let it out on a monthly basis. Online parking marketplaces allow you to list your space in their databases, and set a monthly price for it. You can also set restrictions on use if you're likely to need the space yourself at certain times.

5. Become a mystery shopper. High-street retailers are desperate to check that their customer service is up to scratch. Online mystery shopping agencies will employ you to visit retailers to rate their service quality or the quality of their goods. This can be great fun too.

6. Babysit for friends/neighbours. Watch somebody else's TV for the evening and get paid for it! You obviously must be prepared to look after children if they are awake, but this can be a good source of extra income.

A friendly EAR

The College's counselling service EAR provides free assistance, counselling, resources and referrals for issues ranging from debt and wills to quitting smoking and coping with depression. The free service can be accessed by phone or web 24 hours a day, seven days a week and it is entirely confidential.

0800 243458
www.ear.co.uk
assistance@ear.co.uk

Supporting postdocs



Prabhu Rajagopal, Research Associate (Mechanical Engineering), has spent six years at Imperial and has been a postdoc for more than two of those. He reports on the first postdoc lunchtime meeting he and fellow postdoc representative Ruth Brooker held for their department and why he thinks issues faced at this career stage need to be highlighted.

“Earlier this month around half of the postdocs in the Department of Mechanical Engineering turned up for a lunchtime meeting I helped to organise for all the postdocs in the Department. It was a really good informal opportunity for them to come and ask questions about the support and development opportunities the College offers.

I volunteered to be a postdoc rep earlier this year as I was aware that being a postdoc can be quite challenging – you aren’t a student and you aren’t an academic – you have your entire career in your hands as well as your research and you are suddenly responsible for your own development. It’s also hard to

know about the opportunities and support available to you. As reps our role is to listen to issues postdocs face and find out what they want in terms of their development. We are also there to tell them about the mentoring schemes available and disseminate information about the range of mentoring, coaching and other resources provided by the Postdoc Development Centre.

Once a term the departmental reps meet up with the postdoc committee and discuss the needs of postdocs. I think postdoc development is really important. If you invest in people they perform better and have a greater sense of commitment to their work.”

Telephone fundraising campaign is one in a million!

This autumn Imperial students raised over £1 million for the College after they spent eight weeks calling up alumni in the UK, USA, Canada and South Africa to encourage them to make a charitable donation to the College Fund. The Fund currently supports a selection of projects at the College including Student Opportunities Fund scholarships and Junior Research



Fellowships.

Student caller James Price, who is in the second year of his medical degree comments: “Get-

ting to such a significant milestone really gives you a sense of achievement, and it’s great to know we’ve managed to provide so much help for the Annual Fund’s projects!”

—ALASDAIR GLEN, ALUMNI AND DEVELOPMENT

Inspired by the Mercy Ships

The School of Medicine Surgical Society hosted a lecture in October presented by Lord McColl, Emeritus Professor of Surgery at Guy’s Hospital, and one of the team of surgeons on board the Mercy Ship – one of the largest hospital ships in the world. Abubakar Mohammed, Clinical Year Representative from the Imperial College School of Medicine Surgical Society, reports.



“The lecture took place at the Charing Cross Campus in a packed lecture theatre of around 150 medical students. Several on-call doctors also managed to get a few spare moments away from the wards to catch part of the talk.

The Mercy Ship sails the seas to the coasts of some of the world’s poorest countries where it treats and cures patients in need for free. I was deeply inspired by the story of a patient who had been an outcast in his village because of a facial disfigurement. The surgeons were able to remove the tumour and reconstruct the patient’s face to near normality. He’s now a family man with a wife and children.

Lord McColl’s work has inspired me to consider undertaking my medical elective with a humanitarian organisation in the developing world this summer.”

Against all odds

Celebrating the legacy of exiled scientists in WWII

On 3 November, Dr Ralph Kohn, who had a distinguished career in the pharmaceutical industry, gave a lecture, organised by Friends of Imperial College, on the persecution of scientists in Nazi Germany during the 1930s. Dr Bradley Clarke (Civil and Environmental Engineering) reports:

“Dr Ralph Kohn arrived in Britain as a young refugee during World War II after escaping from Germany then Holland. In his talk he described how the Nazi party was elected into power in Germany in 1933 and immediately began a series of reforms that included the removal of

Jewish academics from publicly run universities. He said even the Nobel laureate Albert Einstein wasn’t recognised by the Nazi regime and his science was dismissed as ‘mathematical juggling’.

To help the displaced German academics the Council for Assisting Refugee Academics was set up to help relocate the academics into universities throughout Britain and the rest of the world. Ralph said the Nazi policy on Jewish academics was foolish because it made a present of these brilliant minds to other countries such as Britain. Ralph noted that while approximately 200 German academics were exiled to 30 countries, the scientific achievements of this small group is astonishing, with 18 awarded Nobel prizes.

The legacy of the brutal Nazi regime acts as a reminder to us all that culture, truth and civil liberties are things that are not always guaranteed.”



Dr Kohn’s lecture described the persecution of scientists in Nazi Germany during the 1930s and illustrated the unique and dedicated work of extraordinary British subjects who helped persecuted academics find a safe haven for their work and life in the UK.

obituaries



TREVOR BRUINERS

Trevor Bruiners, Residences Security Officer (Security Services) died on 13 August 2009. Terry Branch, Head of Security, who worked closely with Trevor when he first joined the Security Department, pays tribute: "Trevor had worked for the Security Department since 1 July 1991 and was a highly popular and professional member of staff. He was a dedicated and extremely pro-active Security Officer, well respected by staff and students alike. He spent a great deal of his career at Imperial working in student halls, where his professionalism and hard work were held in high regard. He always looked for ways of improving the service that the department delivered, and was responsible for many innovations. Trevor was popular throughout the College and will be sorely missed by his friends and colleagues. Trevor was proud of his South African roots and was a keen follower of the Springbok rugby team and also a fervent Chelsea fan. He was a proud family man and leaves behind his wife, Sandra, and three children, James, Carl and Emily."

Celebrating a century of supporting sport



On 12 November a surprise ceremony was held for three members of Imperial staff from Harlington in west London, home to the College's outdoor sports and training ground, who between them have clocked up 100 years of service.

The staff honoured at the event hosted by the Rector were Mick Reynolds, Grounds Manager (44 and a half years' service); Phil Ramsdale, Grounds Supervisor (26 and a half years' service) and Keith Cooper, Assistant Groundsman (nearly 29 years' service), who were each presented with 'Harlington 100' tankards and champagne.

Mick's wife Anne also received flowers and a silver picture frame, having worked at Harlington part-time for 27 years, most recently as Pavilion Supervisor.

Rector Sir Roy Anderson thanked the staff saying: "I'm delighted to be here to mark this amazing achievement".

Referring to his own memories of Harlington, he added: "My first visit here was as a student in 1965, for rugby trials, and it's great to be back. From my personal experience I know sports are a very important part of life at the College. We've got an excellent record for sports facilities here and that's due to our dedicated and experienced sports staff".

Harlington sports ground has 10 football pitches, three rugby pitches and two cricket squares. As well as providing grounds for Imperial members seven days a week, it is also home to Queen's Park Rangers FC's training centre and England Rugby Football Union teams train there regularly.

—JOHN-PAUL JONES, COMMUNICATIONS

To watch a video on the event see: www3.imperial.ac.uk/news/harlington

long
service

Reporter shares the stories of staff who have given many years of service to the College. Staff featured celebrate anniversaries on 1 October–19 November. Data is supplied by HR and is correct at the time of going to press.

—ECE MENGUTURK, COMMUNICATIONS

20 years

- Dr James Gardiner, Senior Lecturer (Investigative Science)
- Ms Ruth Newton, Head of Cataloguing (Library Services)
- Professor Marlene Rose, Professor of Transplant Immunology (NHLI)
- Ms Daphne Salazar, Personal Assistant (EEE)
- Mrs Ros Watts, Personal Assistant (SORA)
- Mr Everson Williams, Porter (Catering Services)

30 years

- Mr Paul Belli, Technical Manager, Architecture (ICT)
- Mr Malcolm Hudson, Academic Related Administrative Facilities Manager (Physics)
- Mr Clive Jeffery, Maintenance Stores Assistant (Medicine)
- Professor Jeff Magee, Professor of Computing (Computing)
- Professor Kamran Nikbin, RAE/BE Professor of Structural Integrity (Mechanical Engineering)
- Mr Graham Storey, Bioscience Technician (Medicine)



SPOTLIGHT

Emeritus Professor Peter W. Bearman, Senior Research Investigator 40 years

Emeritus Professor Peter Bearman started at Imperial in 1969 as a lecturer in the Department of Aeronautics. Looking back over his long career at the College, Peter remarks that he was "always looking forward to the next step". Having been appointed to a professorship in 1986, he then held a number of senior positions including Head of Aeronautics and Pro Rector before becoming Deputy Rector in 2001. Peter's research is concerned with the understanding of bluff body flow, the flow which is generated by high drag, non-streamlined bodies. It is relevant to a range of applications in civil, ocean and automotive engineering, as well as aeronautical engineering. In addition, Peter is a Fellow of the Royal Aeronautical Society, City and Guilds of London Institute and Royal Academy of Engineering. Outside Imperial, Peter enjoys skiing holidays in the Austrian Alps and spending time with his family which now includes grandchildren.

Coldstream guards award student music scholarship



(L-R) David Glanville, Richard Dickins (Director of Music) and Lt. Col. Graham Jones MBE (Senior Director of Music, Household Division and Band of the Coldstream Guards)

On 12 November David Glanville (first year medical student and violinist) was awarded the first Coldstream Guards Scholarship at an event organised by Mel Tamplin (Finance). The scholarship will enable David to attend lessons at the Royal College of Music to hone his violin and music skills. The launch of this award follows the successful collaborative event, Wind Power, held earlier this year featuring Imperial Winds and Band of the Coldstream Guards.

Welcome new starters

Dr Erlend Aasheim, Investigative Science
 Dr Andres Acosta Lobos, NHLI
 Ms Caroline Adams, SORA
 Miss Lucy Bailey, NHLI
 Mr Volker Behrends, SORA
 Ms Elisa Bellomo, Medicine
 Dr Yacine Bentaleb, Aeronautics
 Dr Sergio Benvenuti, Physics
 Dr Francesco Berlanda Scorza, Investigative Science
 Miss Aristeia Binia, NHLI
 Dr Georg Bohn, Investigative Science
 Ms Giulia Bolasco, NHLI
 Mr Richard Bowman, Natural Sciences
 Miss Charlotte Burstrom, Cell and Molecular Biology
 Ms Guia Carrara, Investigative Science
 Ms Paula Carvelli, NHLI
 Ms Bridget Catterall, Medicine
 Dr Adam Chaker, NHLI
 Miss Esmita Charani, Investigative Science
 Mr Jayanta Chatterjee, SORA
 Mr Lionel Chaudet, Physics
 Dr Bradley Clarke, Civil and Environmental Engineering
 Mr Alexessander da Silva Couto Alves, EPHPC
 Ms Abigail Deamer, EPHPC
 Miss Ruth Dixon, EPHPC
 Dr Aristomenis Donos, Physics
 Mr Alexander Dunnett, Grantham Institute
 Dr Ash Ederies, Clinical Sciences
 Ms Ruth Elderfield, Investigative Science
 Dr David Erritzoe, Neurosciences and Mental Health
 Mr Federico Fabbri, EPHPC
 Dr Tatiana Goldberg, ESE
 Dr Stephen Goldring, Medicine
 Dr Victor Goncalves, Chemistry
 Miss Maria Gradillas, Centre for Environmental Policy
 Mr Andrew Greenhalgh, SORA

Mr Nir Grossman, Biomedical Engineering
 Mr Alexander Haupt, Physics
 Dr Steven Heggie, Department of Bioengineering
 Mrs Ursula Herbolt-Brand, NHLI
 Miss Jemima Ho, NHLI
 Dr Verena Horneffer-van der Sluis, Medicine
 Dr Richard Husicka, SORA
 Mr Asif Hussain, Bioengineering
 Ms Suzan Jeffries, SORA
 Miss Teresa Kasia, NHLI
 Dr Erum Khan, SORA
 Mr Simon King, Chemistry
 Mr Julius Labao, Neurosciences and Mental Health
 Mr Scott Laczay, Centre for Environmental Policy
 Professor Bengt Langstrom, Neurosciences and Mental Health
 Mr David Law, Natural Sciences
 Dr Heidi Ling, Medicine
 Dr Richard Lumbers, NHLI
 Dr Eduard Maron, Neurosciences and Mental Health
 Dr Carl Milner, Civil and Environmental Engineering
 Ms Chloe Morris, EPHPC
 Dr Angela Mortier, Physics
 Dr Jair Munoz Bugarin, Faculty of Engineering
 Dr Osama Naji, SORA
 Ms Zhensheng Pan, Investigative Science
 Mr Mitesh Patel, Physics
 Mr Mark Pesaresi, Physics
 Miss Sally Peyman, Chemistry
 Mr Tom Phillips, Estates
 Dr Alastair Proudfoot, NHLI
 Ms Sherry Qian, Chemistry
 Mr Stephen Quinn, SORA
 Dr Guru Ramaswamy, Mechanical Engineering
 Dr Christopher Rao, SORA
 Dr Laurence Reed, Neurosciences and Mental Health
 Dr Marian Rehak, Biomedical Engineering
 Miss Jolene Retallick, Graduate Schools
 Mr Paul Reynolds, Centre for Environmental Policy

Dr Mark Robinson, Medicine
 Mr Andrew Rose, Physics
 Miss Emma Rowley, NHLI
 Dr Matthew Ruffoni, Physics
 Dr Catinca Secuianu, Chemical Engineering
 Dr Mark Smith, Clinical Sciences
 Mr Dominic Southgate, Bioengineering
 Dr Deepa Srinivasan, SORA
 Ms Julie Stove, Medicine
 Ms Sam Swartzman, Business School
 Mr Daniel Taffard, Sport and Leisure Services
 Dr Yukie Tanino, EEE
 Mr Martin Thompson, Biology
 Ms Julie Trebilcock, Neurosciences and Mental Health
 Miss Suzanne Wallis, Centre for Environmental Policy
 Dr Ying Weng, EEE
 Professor Dominic Withers, Clinical Sciences
 Mr Paul Wöbkenberg, Physics
 Ms Nabila Youssouf, SORA
 Mr Emmanouil Zacharakis, SORA
 Dr Kaiyu Zhang, Bioengineering

Farewell moving on

Ms Nikki Allen, Human Resources (12 years)
 Dr Jon Allin, Mechanical Engineering (11 years)
 Dr Maria Angelopoulou, EEE
 Dr Abdul Ansari, Medicine
 Ms Baly Athi, Human Resources (8 years)
 Dr James Babington, Physics
 Miss Janine Beale, NHLI
 Mr Claudio Bellei, Physics
 Miss Amy Butler, Clinical Sciences
 Mrs Linda Campbell, Neurosciences and Mental Health
 Dr Filippo Caruso, Physics
 Dr Alexander Chroneos, Materials
 Dr Deborah Clarke, NHLI
 Mr Neville Clarke, Estates
 Mr William Dugdale, Student Union
 Mr Nicholas Duggan, Chemical Engineering (14 years)
 Dr Geoff Fishpool, Aeronautics
 Dr Paul Ford, NHLI
 Dr Thomas Galliford, Medicine
 Mrs Joanna Gower, Agricultural Sciences
 Dr David Granger, SORA
 Emeritus Professor William Griffith, Chemistry (8 years)

Mr John Griffith, Estates
 Dr Margaret Harper, EPHPC
 Ms Grit Hartung, Computing
 Dr Michelle Heathcote, Medicine
 Dr Richard Hillary, Biology (7 years)
 Dr Hong Huang, Investigative Science
 Dr Delisa Ibanez Garcia, NHLI
 Dr Rivka Isaacson, Molecular Biosciences (5 years)
 Dr Natalia Karpukhina, Chemistry
 Dr Elisabeth Kugelberg, Investigative Science
 Miss Livia Lai, Molecular Biosciences
 Mr Duncan Law, Library
 Dr Lionel Luron, Kennedy Institute
 Dr Anil Madhavapeddy, Computing
 Dr Pete Manning, Biology (7 years)
 Dr John Marwick, NHLI
 Dr Angela McDonald, Medicine
 Dr John McDonald, EEE
 Mr Darren McGuinness, Library
 Ms Shelley Meehan, Business School
 Miss Helen Mocatta, Library
 Mr Jarlath Molloy, Civil and Environmental Engineering
 Dr Aruni Mulgirigama, NHLI
 Mr Samuel Murphy, Materials
 Dr Miguel Navascues, Physics
 Dr Alan Outten, Computing
 Dr Masaki Owari, Physics
 Dr Parthivan Paskaran, SORA
 Ms Camilla Pedersen, Investigative Science
 Ms Veronique Peters, Investigative Science
 Mr Konstantinos Petridis, Physics
 Dr Seema Raghunathan, Materials
 Dr Efstratios Rappos, Business School
 Mr Darryl Readings, Catering

Dr Alexander Retzker, Physics
 Dr Sandra Sacre, Kennedy Institute (7 years)
 Ms Nadine Seward, EPHPC
 Dr Yuri Shioagai, Bioengineering
 Professor Gordon Stamp, Investigative Science (19 years)
 Miss Nicola Thomas, NHLI
 Dr Isobel Tomlinson, Environmental Policy
 Mr Andrew Tonner, Investigative Science
 Mr Mathieu Toumi, Chemistry
 Mr Leo Tyrie, Investigative Science (12 years)
 Miss Chika Ukwuoma, Catering
 Mr Harald Wunderlich, Physics
 Dr Colin Wyatt, Development and Corporate Affairs (5 years)
 Dr Zhongxuan Yang, Civil and Environmental Engineering
 Miss Tessa Young, EPHPC
 Ms Min Zhao, Cell and Molecular Biology

retirements

Dr Anne Bishop, Investigative Science (33 years)
 Ms Frith Hooton, Mathematics (6 years)
 Dr Gabriel Khoury, Civil and Environmental Engineering (28 years)
 Mrs Marilyn Treadaway, Civil and Environmental Engineering (27 years)

This data is supplied by HR and covers the period 4 October–14 November. It was correct at the time of going to press. Years of service are given where an individual has been a member of College staff for over five years. Asterisk (*) indicates where an individual will continue to play an active role in College life.

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

The Editor reserves the right to edit or amend these as necessary.

CORRECTIONS AND CLARIFICATIONS

Reporter would like to apologise for the inaccurate entry about Professor Naomi Chayen in the awards and honours column of the last issue, *Reporter* 211, published on 6 November 2009. This should have stated that her visiting professorship appointment at Harvard was made in 2007 in the Pathology Department, rather than in the Centre for Molecular and Cellular Dynamics.

Speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 17 December. *Reporter* is published every three weeks during term time in print and online at www.imperial.ac.uk/reporter

Contact Emily Ross: ✉ reporter@imperial.ac.uk
 ☎ +44 (0)20 7594 6715



30 NOVEMBER ▶ SPECIAL LECTURE

Molecular cooking is cooking: molecular gastronomy is a scientific activity

Hervé This, one of the world's experts on the chemistry of cooking and inspiration to Heston Blumenthal, will present this special

demonstration lecture. In 1988, Hervé This co-founded the scientific discipline of molecular gastronomy to refocus attention on the chemical processes involved with cooking. Join the father of molecular gastronomy as he launches his new book *The Science of the Oven*, and learn more about his philosophy and the science behind his food. Watch out for his signature demonstration, the 65-degree egg.



8 DECEMBER ▶ LECTURE

UK energy future – the road map to 2050

The world of 2050 will be vastly different from the one we know today. However, only dramatic change will enable us to create a world in which energy efficiency and affordability go hand in

hand with sustainability and security of supply. What is the vision and direction that will ensure regulatory and market frameworks enable the right investments for a better tomorrow? Steve joined the National Grid Group as Board Director responsible for the UK and Europe in March 2001. He rose through the ranks to become Group Director responsible for UK Gas Distribution and Business Services in 2003.

26 NOVEMBER ▶ LECTURE

Reasons to be cheerful: how to turn economic gloom into environmental boom

Paul de Zylva from Friends of the Earth presents this talk as part of the Green Week schedule

30 NOVEMBER ▶ SPECIAL LECTURE

Molecular cooking is cooking: molecular gastronomy is a scientific activity

French chemist and cook, Hervé This

16 DECEMBER ▶ CHILDREN'S CHRISTMAS DEMONSTRATION LECTURE

Chemical Christmas Crackers

Professor David Phillips, Emeritus Professor of Chemistry

8 DECEMBER ▶ LECTURE

UK energy future – the road map to 2050

Steve Holliday, CEO, National Grid, will be presenting the Energy Futures Lab Annual Lecture

UNTIL 23 DECEMBER ▶ EXHIBITION

Sci Fi Surgery: Inside the world of medical robots

Show at the Hunterian Museum featuring exhibits by Imperial researchers

26 NOVEMBER ▶ INAUGURAL LECTURE

Unintended consequences: why cheap mobile calls and well meaning regulators might make us pay more

Professor Tommaso Valletti, Business School

take note

Introducing our new student bloggers

Following the success of last year's award winning student blogs (featured in 'blogspot' in every issue of *Reporter*), a new team of student bloggers has been selected. To find out who made the winning team, how they've spent the autumn term, which blogger will teach you how to cook and who is writing a novel, and to read and comment on their blogs visit www3.imperial.ac.uk/campus_life/studentblogs



VOLUNTEERING

Literacy teacher for teenagers

Project ID: 2280
Organisation: Real Action
Dates: Until 31 Mar 2010
Times: Afternoon (12–17.30)
Location: Harrow Road, London W10



Volunteers are needed to work with Westminster Academy – a secondary school based on the Harrow Road, teaching disadvantaged teenagers between the ages of 11–12 reading and writing as part of a bigger structured project called 'Youth Life'. One of the aims of the project is to ensure the teenagers involved obtain the literacy skills they need to advance successfully in secondary school. In the year of entry 80 out of 180 children at Westminster Academy tested for literacy could not read.

For more information

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

☎ 020 7594 8141
✉ volunteering@imperial.ac.uk

For full details of over 250 volunteering opportunities please visit:
www.imperial.ac.uk/volunteering

✉ Subscribe to the weekly newsletter by emailing volunteering@imperial.ac.uk

PHOTO EXPO

Engineering students are transforming one of the world's fastest petrol powered racing cars, the Radical SR8, into a high performance electric vehicle.

The car is being showcased in the Main Entrance of the South Kensington Campus this month.

To watch a video about the team visit: www3.imperial.ac.uk/news/endurance



Stay in the loop

✉ Visit www.imperial.ac.uk/events for more details about these events and others. To sign up for regular updates about Imperial events please email: events@imperial.ac.uk

