UNAIDS’ Peter Piot to set up new global health institute at Imperial > CENTRE PAGES
Gordon meets with Imperial academics

Prime Minister Gordon Brown visited Imperial to meet with academics, business leaders and MBA students and discuss the global financial crisis. (27 October)

The meeting, in which the Prime Minister revealed his plans to deal with the credit crunch and restructure the UK economy, attracted figures including Iain Corn, Director of BP and Chair of Imperial College Business School Advisory Board and Ian Coleman, Global Head of Emerging Markets at PricewaterhouseCoopers.

Mr Brown’s introductory speech was followed by a Q&A session chaired by Professor David Begg, Principal of the Business School, and attended by Rector Sir Roy Anderson (both pictured above) plus academics from the College including Professor Richard Templar, Director of the Porter Institute.

—Emily Ross and Naomi Weston, Communications

For the full multimedia coverage of the visit, go to: www3.imperial.ac.uk/news/primeminister

Senior staff changes in the Faculty of Engineering

Following the appointment of Professor Stephen Richardson FREng as Principal of the Faculty of Engineering, the following staff changes have been announced.

Professor Jeff Magee, Head of the Department of Computing, (left) will combine his current duties with a role as Deputy Principal (Research) of the Faculty of Engineering.

Professor David Nethercot FREng, Head of the Department of Civil and Environmental Engineering (left), will combine his current duties with a role as Deputy Principal (Teaching) of the Faculty of Engineering.

Professor Richard Hillier (left) will continue in his role as Head of the Department of Aeronautics for a further year.

Professor Andrew Livingston

FREng (pictured below) has accepted appointment as Head of the Department of Chemical Engineering and Chemical Technology in succession to Professor Stephen Richardson. Professor Livingston’s research interests centre on membrane technology for chemical and pharmaceutical applications and his awards include the Warner Medal of the Institute of Chemical Engineers.

Professor Peter Cheung (left) has accepted appointment as Head of the Department of Electrical and Electronic Engineering in succession to Professor David Limebeer FREng. Professor Cheung was awarded one of the three earliest Teaching Fellowships from Imperial in 1994 and one of the Rector’s Research Excellence awards (jointly with Professor Wayne Luk) in 2006. Professor Chris Hankin is relinquishing his post as Deputy Principal of the Faculty of Engineering to take on a new cross-faculty position.

Partnership with the NPL

A memorandum of understanding was signed on 8 October by Imperial and the National Physical Laboratory (NPL), the UK’s national measurement institute, to facilitate increased research collaborations between the two organisations.

The NPL is a world-leading centre of excellence in developing and applying accurate measurement standards, which are used in almost all aspects of daily life as well as in cutting edge scientific research. Measurement science has a far-reaching impact on society—from allowing people to tell the time accurately to administering the correct dosages of medicines.

Imperial researchers are working in many areas that overlap with and feed into the NPL’s area of expertise. For example, climate change scientists are measuring the levels of solar radiation absorbed and emitted by the Earth, and nanotechnologists and laser scientists need to take the smallest measurements imaginable: nanometres, which are one millionth of a millimetre, and attoseconds, which last for just one billion billionth of a second.

—Danielle Reeves, Communications
Bioengineers celebrate their new facilities

On 16 October the Department of Bioengineering celebrated the official opening of new £8.4 million facilities at Imperial.

The event marked the consolidation of the Department under one roof at the College’s South Kensington Campus, after years of being based in eight separate locations.

The range of new facilities includes labs, open-plan seating for 68 PhD academics, a café, common rooms, two lecture theatres, new rooms for conferences, and 29 academic and administrative offices.

The construction of new labs gives scientists the scope to carry out a range of activities including research to combat diseases such as atherosclerosis, where arteries thicken and harden from fatty deposits.

Other labs are being used to investigate the human circulatory system to improve the effectiveness of vascular grafts, which are used to bypass blocked arteries. Novel sensors will also be built and tested to detect infections in wounds that are healing after operations.

In addition, the Department boasts new labs to further studies in body motion, such as walking and running, to improve the performance of athletes. These labs are also being used to understand the forces which affect joints that can lead to diseases which cause them to inflame, such as arthritis.

Head of Department Professor Ross Ethier said: “Advances in scientific research are often made by serendipitous interactions in the hallway. Our researchers and students are set to benefit from closer interactions”

The facilities were opened by Professor Lord Martin Rees, President of the Royal Society.

—COLIN SMITH, COMMUNICATIONS

To see a video tour of the new space visit: www3.imperial.ac.uk/news/bioengineers

Creative Futures

Over 100 local school children attended the three day interactive Creative Futures: Achieving your Potential event, organised by Imperial As One, the College’s race equality advisory group, two weeks ago.

The event gave pupils from year six through to year 12 the opportunity to learn about designing and building bridges, study sound waves in the College’s music suite and learn about stem cell research.

—NAOMI WESTON, COMMUNICATIONS

talk science

The Science Museum is looking for scientists who can help empower teachers to enthuse their students in contemporary science.

An information session on the programme, Talk Science, will be run on Wednesday 12 November 14.00 • SALC 1, Sherfield Building, South Kensington Campus

For more information visit: www.imperial.ac.uk/outreach/informationforstaff/talkscience

in brief

- Chief Coordinating Officer
  Dr John Green, in his continuing role as Chief Coordinating Officer, will support the Faculty of Medicine in its future developments, working with the Deputy Principal, Professor Sir Anthony Newman Taylor, and the Faculty Operating Officer, Philip Blissett, on a range of major initiatives. He will also provide significant input to the ICT Advisory Boards responsible for organisational intelligence and research management.

- Toumazou chairs new ‘blue sky’ committee
  The Royal Society has launched a new funding stream to be headed by Professor Christofer Toumazou, Director of Imperial’s Institute of Biomedical Engineering. Professor Toumazou will be heading the Theo Murphy Blue Skies Award panel, which will invest up to £1 million annually in research that blurs between the boundaries of science, engineering and technology. www.royalsociety.org/blueskies

- £1 million for structural biology
  Imperial’s Centre for Structural Biology has secured £1 million funding from the Wellcome Trust for new cutting edge equipment to analyse the structures of important biological molecules. The funding will be used to update existing College facilities which enable scientists to look at the atomic detail of proteins and other molecules, both in still ‘snapshots’ and as they move around in solution.

- Research Excellence Awards
  The winners of the Research Excellence Awards—designed to reward research teams that have demonstrated high academic achievement—were announced on 30 September. Winners came from the NHHL, the Division of Cell and Molecular Biology, the Department of Physics and the Department of Mechanical Engineering. www.imperial.ac.uk/researchservices/managingawards/researchexcellenceawards
Introducing a paperless recruitment system

A new system to administer the recruitment of staff is due to be introduced in early 2009 and will lead to a more streamlined process for applicants and staff with responsibilities for recruitment.

iRecruitment, part of the Oracle Business Suite, is currently being trialled by the Imperial College Business School and is due to be rolled out to ICT and Security next month. Benefits for applicants, who will create a personal account in iRecruitment to submit their application, include automated email alerts updating them of progress and as it is all online they can access their applications from any computer.

For staff administering applications, the new system will speed up the process of creating and displaying vacancies. It will automatically collate applicants, send out automatic email invitations to interviews and automatic rejection emails and will make it easier to seek references. Those involved in shortlisting for a vacancy will also be able to receive applications directly to their email account. As an added incentive, iRecruitment will help staff to reduce their carbon footprint as it will remove the need to print out application forms.

iRecruitment will be implemented across the College in early 2009. Staff involved in recruitment activities will receive further details later in 2008 and will be invited to training sessions.

— EMILY ROSS, COMMUNICATIONS

Further information can be obtained from: irecruitment@imperial.ac.uk

Imperial scientists run half marathon in memory of French students

On 12 October a group of Imperial’s biochemistry researchers took part in a half marathon in memory of visiting students Laurent Bonomo and Gabriel Ferez, who were killed in July this year.

Laurent and Gabriel, especially those who were working closely with them. The race was important to me because I think it was a very positive thing to do in their memory. The race, and training for the race, has helped to bring the group closer together.”

Professor Steve Matthews (Molecular Biosciences), who captained the team and ran himself on the day, said: “It was a fantastic event. All members of the team survived the race and I’m especially proud of the first timers. We’ve had a lot of support from across the College and from friends and family. We would also like to thank everyone who has donated and to those who came along to cheer us on.”

——— NAOMI WESTON AND EMILY ROSS, COMMUNICATIONS

The group raised over £5,000 and hopes to raise more. To sponsor them visit: www.justgiving.com/laurent_and_gabriel

 awards and honours

RCSU president honoured at the Commons

Imperial student David Charles was awarded the outstanding achievement in higher education prize at the London Schools and the Black Child academic achievement awards at the House of Commons on 3 October. David, who graduated from Imperial with a first class Honours degree in Biology this year, and who has just started an MRes course in Biochemical Research at the College, was Vice President of the Royal College of Science Union while an undergraduate and takes up the presidency this year. He was recognised for his willingness to help others, including mentoring younger students.

Lifetime achievement prize for Kafatos

Professor Fotis Kafatos (Life Sciences) has been awarded a special lifetime achievement prize by the Louis-Jeantet Foundation, a Swiss-based organisation which provides funding and support for biomedical research. The award was given in recognition of Professor Kafatos’ significant contribution to the development of European biomedical research on the world stage, and his exceptional research into the biology of the Anopheles mosquito – the carrier of the malaria parasite.

Freemont receives European honour for bioscience

Professor Paul Freemont, Head of the Division of Molecular Biosciences, has been elected to the membership of the European Molecular Biology Organisation (EMBO). Professor Freemont is among 51 renowned life scientists from across Europe whose excellence in research has been acknowledged by EMBO and rewarded with lifetime membership of the organisation in their 2008 annual round of elections this month.

Lalvani lands top TB prize

Tuberculosis researcher, Professor Aijt Lalvani (NHLI) has been recognised this month with a prestigious award from the Royal College of Physicians. Professor Lalvani, from the Wellcome Centre for Respiratory Infection, received the Weber-Parkes Medal during the Harveian Oration at the Royal College on 16 October. The medal is awarded once every three years for outstanding contributions to TB research and policy.

Laureate of the Nobel Prize in Physiology or Medicine, 2007

Dr David Julius receives the 2007 Nobel Prize in Physiology or Medicine for his discoveries concerning the integrated sensing of chemical and physical stimuli in pain, temperature and touch. The Laureate, Professor Julius, worked at the University of Oxford, and is currently Professor of Pharmacology at the University of California, San Francisco. His work on the discovery of the TRP family of ion channels has profound implications for understanding the mechanisms underlying the processing of sensory stimuli, and is likely to have important clinical relevance. The award consists of a medal, a diploma and a sum of money.
**BBC News • 7 October 2008**

Probiotics ‘worthless’ for eczema

A review of 12 different studies suggests that probiotics, the ‘friendly bacteria’ found in yoghurt and health drinks, do nothing to ease the itching and rash of eczema, according to the BBC. Probiotics have been recommended by some doctors after separate studies found that people with eczema have different bacteria in their guts from those without the condition. However Dr Robert Boyle (Medicine) told the BBC:

“There is no evidence that probiotics are a worthwhile treatment for eczema.”

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**New Civil Engineer • 9 October 2008**

Fire stripped off Channel Tunnel lining

The extent of the damage to the Channel Tunnel following September’s fire is still unclear, according to French investigators, and engineers fear that the concrete beneath the tunnel’s steel reinforcement may have split into separate pieces. Dr Gabriel Khoury (Civil and Environmental Engineering) told New Civil Engineer that restoring the tunnel to its previous condition would be tricky if this reinforcement has to be removed first.

“When you reinstate, you’ve got to make sure the tunnel is structurally safe,” he said.

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**The Guardian • 16 October 2008**

Black silicon: may increase solar cell efficiency

Scientists from Harvard University have announced the production of the first commercial-grade wafers from a new ultra-sensitive form of black silicon. They believe these wafers could be used in new highly efficient solar panels. Commenting on the study, Emeritus Professor Keith Barnham (Physics) told The Guardian:

“There has been a silicon shortage and the price is not coming down, so the less you use of it the better. With good light-trapping, which is what these can do, you can hope to get higher efficiency in a much thinner cell.”

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**The Mirror • 15 October 2008**

House prices set to fall for another 18 months

An Imperial researcher told a Commons Treasury Select Committee that house prices could fall a further 10 per cent, reported the Mirror. Professor Dave Miles (Business School) told MPs at the committee hearing:

“There is a stand-off in many parts of the country between people who have got a house to sell and people who have got mortgage credit, and they cannot agree on a price.”

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**Imperial College Healthcare NHS Trust scores well in annual health check**

In the first assessment as a new organisation, Imperial College Healthcare NHS Trust has received a ‘good’ rating for the quality of its services, the use of its resources, and for meeting targets on MRSA and C. difficile reduction.

This is an improvement on last year’s results when the Trust was rated as the two former organisations—Hammersmith Hospitals and St Mary’s NHS Trusts. Then, both trusts were given a ‘good’ score for the quality of their services, but St Mary’s and Hammersmith were given ‘good’ and ‘fair’ ratings respectively for use of resources.

The quality of services assessment measures how well the Trust is performing against nationally set standards and targets, including new targets.

In 2007–08 the Trust fully met existing national targets including for waiting times in Accident and Emergency and for inpatients and outpatients, as well as treatment times for all cancers. It also fully met core standards on safety, governance, patient focus including privacy, dignity and care, environment and amenities. It was deemed as good at meeting new targets, achieving those set on MRSA bacteraemia and C. difficile.

On patient focus scores it was given full marks for promoting dignity and respect and keeping the public healthy. Safety and cleanliness received a score of 12 out of 13.

—Cymbeline Moore
(Imperial College Healthcare NHS Trust Press Office)

www.healthcarecommission.org.uk
Polio could be wiped out in Nigeria

A recently introduced polio vaccine is four times more effective at protecting children than previous vaccines and has the potential to eradicate type 1 polio in Nigeria if it reaches enough children, according to a study published in the New England Journal of Medicine on 16 October.

Nigeria is one of only four countries in the world where polio has yet to be eliminated, and 82 per cent of global cases so far this year have been in Nigeria. Polio is highly infectious and it primarily affects children under five years of age. A small minority of infected people develop permanent paralysis, which can be fatal.

The monovalent oral poliovirus vaccine, known as mOPV1, has been used in Nigeria since February 2006 and the number of reported cases of polio in the country fell by 75 per cent between 2006 and 2007.

With each dose of mOPV1 received, a child in Nigeria has a 67 per cent chance of being protected against type 1 paralytic poliomyelitis, according to the new study, which was carried out by researchers from the MRC Centre for Outbreak Analysis and Modelling at Imperial, working with international colleagues. The standard trivalent vaccine in the same setting had an efficacy of 16 per cent.

Although the monovalent vaccine is proving very effective, many more children need to be immunised against polio if the virus is to be eliminated in Nigeria, say the researchers.

Helen Jenkins (EPHPC), the corresponding author of the study, said: “These last pockets of unvaccinated children now need to be reached to achieve elimination in Nigeria, and this in turn will have a dramatic impact on the prospects of worldwide eradication.”

—Laura Gallagher, Communications

How proteins permit entry to a cell

The means by which proteins provide a ‘border control’ service, allowing cells to take up chemicals and substances from their surroundings whilst keeping others out, has been revealed in unprecedented molecular detail for the first time in Science Express, published on 16 October.

The scientists behind the new study have visualised the structure of a protein called Microbacterium hydantoin permease, or Mhp1, which lives in the oily membrane that surrounds bacteria cells. It belongs to a group of proteins known as ‘transporters’ which help cells take up certain substances from the environment around them. This is the first time scientists have been able to show how a transporter protein opens and closes to allow molecules across the membrane and into the cell by accurate analysis of its molecular structure in different states.

“Understanding the details of how this transport mechanism works may help researchers to design new, more effective drugs in the future.”

—Danielle Reeves, Communications

Revolutionising the study of molten rock

A new technique using X-rays has enabled scientists to play detective and solve the debate about the origins of a three billion year old rock fragment.

In the study, published in the journal Nature, the team describes the new technique and shows how it can be used to analyse tiny samples of molten rock called magma, yielding important clues about the Earth’s early history.

Working with Australian and US scientists, Imperial researcher Dr Andrew Berry (Earth Science and Engineering) analysed magma using the Chicago synchrotron, a kilometre-sized circular particle accelerator that is commonly used to probe the structure of materials.

The team used its X-rays to investigate the chemistry of a rare type of magmatic rock called a komatiite, which was preserved for billions of years in crystals.

It has previously been difficult to discover how komatiites formed because earlier analytical techniques lacked the power to provide key pieces of information.

Now, thanks to the new technique, the team has found that komatiites were formed in the Earth’s mantle, a region between the crust and the core, at temperatures of around 1,700 degrees Celsius, more than 2.7 billion years ago.

These findings dispel a long-held alternative theory which suggested that komatiites were formed at much cooler temperatures, and also yield an important clue about the mantle’s early history - that the mantle has cooled by 300 degrees Celsius over the 2.7 billion year period.

Dr Berry said: “This research resolves the controversy about the origin of komatiites and opens the door to the possibility of new discoveries about our planet’s past.”

—Colin Smith, Communications
**Chemical orienteering**

Scientists have long known that single-cell organisms find their way around by detecting chemicals in their surroundings. Now new research published on 3 October in the *Proceedings of the National Academy of Sciences* (PNAS) has shown how accurately cells are able to do this.

Organisms such as bacteria, amoebas, yeast cells and human immune cells need to be able to ‘see’ how the concentration levels of important chemicals vary in their immediate surroundings, so they know if they are moving in the right direction.

For example, in order to move towards a source of food, fast swimming bacteria and slowly crawling amoeba need to be able to sense whether food particles are more concentrated in front of or behind them, so they can adjust their course to head towards the higher concentration of nutrients. Similarly, yeast cells need to be able to follow an increasingly concentrated trail of pheromones from other yeast cells in order to find a partner for sexual reproduction. Human immune cells use the same method of gradient sensing to find their way through the body to the site of an infection, even when the concentration of the important chemical they are trying to detect varies only a miniscule amount from one side of the cell to another.

One of the authors of the study, Dr Robert Endres (Life Sciences), commented: “To survive under threat of starvation, amoebas collectively form long-lasting spores. In order to do this, individual amoeba cells emit chemicals which signal the need to form a collective. These chemicals are detected and followed by neighbouring amoeba cells, bringing multiple amoeba cells together in groups to form the spores. My colleague Dr Ned Wingreen from Princeton University and I set out to find out how accurately this clever mechanism can work theoretically.”

—Danielle Reeves, Communications

**New TB test reveals patients at risk**

A recently introduced blood test can reveal which patients may develop active tuberculosis (TB) much more precisely than the 100-year old TB skin test, according to a new study published in the journal *Annals of Internal Medicine*.

The new ELISpot blood test is able to identify patients with a significant risk of developing the active form of TB, according to the study, carried out by Imperial researchers working with international colleagues.

Around a third of the world’s population is infected with the TB bacteria and approximately nine million new cases of active TB are diagnosed around the world each year, according to World Health Organisation estimates.

Patients with active TB experience the symptoms of the disease, which include fever, persistent cough, and loss of appetite, whereas patients with the dormant, form of TB do not. Treatment can prevent many patients with latent TB from progressing to active TB.

The researchers believe that the ELISpot blood test can enable preventative treatment to be targeted in a more focused way than the tuberculin skin test. Unlike the blood test, the skin test commonly gives falsely positive results if a patient has previously been vaccinated against TB.

Professor Ajit Lalvani (NHLI), the lead author of the study, said: “We now know that the blood test really helps to target treatment to those who most need it in order to prevent them from developing active TB. Building on this work, we are now validating a next generation of tests that have been developed by our TB Task Force at Imperial.”

—Laura Gallagher, Communications

**Drug-resistant TB may account for new infections**

Inadequate treatment of antibiotic-resistant tuberculosis (TB) can leave patients highly infectious and small numbers of such patients may drive transmission of the disease in the very healthcare facilities intended to treat it, according to research published in *PLoS Medicine*.

Every year, more than nine million people develop tuberculosis — a contagious infection usually involving the lungs — and nearly two million people die from the disease. The bacteria that cause TB are spread in airborne droplets when people with the disease cough or sneeze.

Adapting a detection system used in classic 1950s experiments, Dr Rod Escombe (Infectious Diseases and Immunity), and colleagues in Peru and the UK investigated airborne infectious tuberculosis in a hospital in Lima. By venting air from an HIV-tuberculosis ward through a guinea-pig enclosure on the hospital roof, and genetically matching the strains of TB infecting the guinea pigs to those cultured from patients, the investigators were able to determine which patients and strains accounted for most of the guinea pig infections.

They found that only 8.5 per cent of the 118 admissions to the HIV-TB ward during the 505-day study accounted for 98 per cent of the guinea pig TB infections.

Dr Escombe said: “We need to identify which patients have drug-resistant TB as soon as possible, so that we can treat them promptly with the correct medicines and prevent them from spreading infection. In many developing countries, the diagnosis of drug resistant TB is often only made once drugs have failed, but by this late stage the patients can potentially have infected countless other people”.

—Laura Gallagher, Communications
Peter Piot has already done much to improve the lives of some of the world’s most vulnerable people during more than 30 years working on major multinational projects aimed at improving global health, particularly in Africa and Asia.

His achievements include negotiating a 90 per cent reduction in the price of drugs used to treat AIDS by leading pharmaceutical companies, expanding access to HIV treatment in developing countries. He was also responsible for organising the first ever sessions to be dedicated to a health issue at the UN Security Council in 2000, and these achievements are regarded as turning points in the global response to AIDS.

The Institute

Today Dr Piot is about to embark upon a new challenge. Next spring, he will take up his post as Director of Imperial’s new Institute for Global Health, which aims to tackle major health problems across the world. Dr Piot explains why he has decided to return to academia after everything he has achieved. He says: “I have a real thirst for science and research, which I haven’t pursued in my current role. What I’ve seen is that many people in developing countries have not yet benefited from scientific progress and breakthroughs in health provision and this is something which needs to be addressed.”

“I have been fortunate to have had the opportunity to study microbiology, work in the field in Africa and also be at the helm of a major international organisation working on global health policy. What I’ll be able to do at Imperial with the new Institute is to combine all these elements, and generate more of an integrated approach to improving the health of developing countries.”

Imperial already has a strong foundation of global health research projects, including the Schistosomiasis Control Initiative (SCI), which is now working in eight countries in sub-Saharan African, and the Imperial College London Diabetes Centre in Abu Dhabi. Dr Piot is keen to build on and expand this expertise.

He explains that poor global health can be caused by a number of different factors: “It is to do with lifestyle, nutrition, less mobility, changes in the environment, and it also has a lot to do with bad politics.”

Dr Piot says that because global health is such a diverse area, a new approach is needed. “The Institute will be a resolutely multidisciplinary institute... After a lifetime of working in public health, I’m deeply convinced that its problems will not be solved by focusing on medicine alone. We need to redefine public health. This demands action from business, and from engineers, environmental experts and scientific innovators, all working together.”

The focus

The new Institute will focus on some of the more traditional diseases such as malaria, as well as newer diseases such as AIDS, Dr Piot’s specialism. It will also work on chronic diseases such as diabetes and cardiovascular diseases which Dr Piot says are becoming serious health concerns for developing countries.

“Mexico has 30 million diabetics in a population of around 110 million, and India soon may have the largest number of obese people and also the largest number of malnourished people. We need more research into these epidemics so we can anticipate them and develop appropriate interventions with our colleagues based in these countries,” he says.

An important part of the Institute’s work will be centred on building relations with the developing world. Using his experience in the international arena, part of Dr Piot’s remit will be to influence international policy to ensure that discoveries and new therapies can improve the lives of the people who need them most, working in partnership with international development and health agencies and foundations.

He says: “Translating the discoveries and the science into cures and vaccines which can be used in developing countries will be a vital part.”

Sir Roy Anderson on the Institute:

“The prevalence of debilitating and deadly diseases is a key factor preventing some of the world’s poorest countries from developing and achieving a decent quality of life for all of their people. With his vast experience and first-hand knowledge of the challenges, Peter is perfectly positioned to coordinate multidisciplinary research at Imperial College and, importantly, to apply it in a way that can bring real benefit to people who are suffering.”
The new Institute will also work on risk assessment, analysis for policy development and the evaluation of health programmes. Dr Piot points to the recent contaminated milk crisis in China in which thousands of babies died, and says that this type of crisis could have been better contained or even avoided with a global strategy for food standards.

Dr Piot envisages the Business School playing a big role in the new Institute. He says: “With more money going into global health problems, evaluating whether the money is properly used and if it has an impact is really key. Business expertise is needed to work out how to make money go further—for example, if we can find a cheaper drug to treat a disease and if it can be given once rather than every day for two years, we will save money.”

Working together
Developing the new Institute in partnership with College staff is a key aim for Dr Piot. He says: “Before deciding how to go forward with the Institute I will be talking to staff here—I am keen to build on the strengths in the College and I’m not trying to replicate work already being done or work in isolation. The Institute can only be called successful if the whole College is engaged and if every department and division is doing more on global health.”

Dr Piot explains that health has become part of globalisation: “Today you can’t deal with health in one part of the world if you don’t consider what’s going on in the rest of it.”

He describes his hopes for the future: “I want this Institute to become a world leader in global health in terms of research, education and policy development, and I want it to nurture a new generation of top class professionals working in global health. London is an ideal location for the new Institute as it has such a multicultural society. Here, the United Nations are in the street. I’m looking forward to getting started.”

—EMILY ROSS, COMMUNICATIONS

To watch a video interview with Peter Piot, see: www3.imperial.ac.uk/news/peterpiot

To hear the monthly podcast featuring Peter Piot: www3.imperial.ac.uk/media/podcasts

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Biography

Peter Piot

- Dr Piot completed his medical degree at the University of Ghent in 1974 and pursued a PhD in microbiology at the Institute of Tropical Medicine, Antwerp, Belgium, during the course of which he co-discovered the Ebola virus in Zaire in 1976.

- He was Senior Fellow in the Division of Infectious Diseases and the Department of Microbiology at the University of Washington in 1978–79, and after receiving his PhD in 1980 he pursued his career at the Institute of Tropical Medicine, Antwerp, becoming Associate Professor of Microbiology and Head of the Division of Microbiology.

- Working with colleagues during this time he documented heterosexual transmission of HIV, the genetic diversity of HIV and its links with chimpanzee viruses, and the interaction between HIV and tuberculosis, and also developed interventions against HIV in high-risk populations.

- He took up the role of Professor of Medical Microbiology at the University of Nairobi, Kenya, in 1986, before becoming Director of the World Health Organisation Centre on AIDS and the National AIDS Reference Centre at Antwerp in 1987.

- During this time he pioneered the first international project focused on AIDS in Africa (Project SIDA) which is acknowledged as having provided the foundations of world understanding of HIV infection.

- In 1992 Dr Piot became Associate Director of the WHO’s Global Programme on AIDS and took up his current role in 1995.

- Since 1995, he has been Executive Director of UNAIDS, and has helped to build a broad international coalition against the AIDS epidemic, placing AIDS firmly on the world’s agenda. Dr Piot’s work has brought together UN agencies with international development agencies, foundations, civil society, and business and political leaders, including numerous heads of state.

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One of UNAIDS’ projects in Ethiopia, distributing condoms to promote safe sex
Dr Döring has come up with a new explanation for why the leaves turn red in the autumn.

**So how did you get into science?**
“I have always been interested in nature and studied ecology at university before going into agriculture. For my PhD I looked at plant protection in organic farming.”

**How important are your findings?**
“We have theorised that some tree species may benefit from producing red leaves as a safety mechanism to fight off tree-damaging insects such as aphids. If these insects land on them to lay their eggs in large numbers, this could affect the growth of the trees in spring and potentially reduce their fitness. The production of red pigments in leaves could be concealing the yellow leaf colour that is highly attractive to aphids.”

**What are the next steps in your research?**
“The next stage is to look closely at the effects that aphids have on the trees’ fitness and discover whether aphids that land on red leaves behave differently from those that land on yellow or green.”

**What do you most enjoy about your work?**
“I work in a small team and spend a lot of my time outside. Most of the experiments we conduct take place at Silwood Park. The highlight of my job is analysing data and waiting for the moment of revelation. When I look at a graph of data it can be really exciting but my life is up and down as one moment I may have found something and then the next I have to go back and refine it.”

—NAOMI WESTON, COMMUNICATIONS

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**Tackling MRSA head on**

**Christian Fellowes** and co-inventor Dr Ryan Kerstein recently qualified as doctors from Imperial and during their studies they came up with a disposable tourniquet called Tournistrip (see Reporter 178).

The tourniquet, an essential tool for medical staff when taking blood or inserting a drip, is wrapped around a limb and tightened to make veins become more prominent. As the new Tournistrip is disposable, the inventors hope it could help reduce the spread of hospital infections such as MRSA.

Dr Fellowes explains how his clinical observations stimulated this entrepreneurial idea: “We saw medical staff using reusable tourniquets which could potentially transfer infective organisms from patient to patient. “Disposable rubber gloves were also used as tourniquets but this seemed unprofessional and uncomfortable,” he continues. “We wanted to design a device which could minimise infections and provide a practical and cost-effective alternative to current methods.”

To achieve this, the pair came up with the Tournistrip, which is made of plasticised paper with a quick seal and release sticking mechanism. “We consulted with Professor Darzi, who suggested we approach Imperial Innovations with our idea,” Dr Fellowes says. “They liked it and helped us to develop it. We were able to produce prototype products which were tested on patients in two major hospitals. The trials offered an insight into usability from a patient’s perspective and proved that the concept could work.”

In 2007 spin-out company ASep Healthcare was set up to take the Tournistrip further and management with commercial experience were recruited. There is already a great deal of interest in the product and the company is in the final stages of negotiation with several UK based medical trusts. Dr Fellowes is hopeful that within a few months the Tournistrip will be used routinely by them.

Commenting on the challenge of developing the device, he says: “It’s true that invention is five per cent inspiration and 95 per cent perspiration. For a product to be successful you have to believe in it and refuse to give up.”

—MICHELLE COTTERILL, IMPERIAL INNOVATIONS

**If you have an idea with commercial potential, Imperial Innovations could help: www.imperialinnovations.co.uk**
More than 1,100 graduated with an Imperial College degree, becoming the first undergraduates to do so since the College became an independent university in July 2007.

Sir Roy Anderson enjoyed his first commemoration day as Rector of Imperial. Congratulating the graduands, he said: “The world that you have inherited will present your generation with major challenges. You in this hall today are the members of that generation who are well-placed to confront and overcome them.”

Fellowship
Emeritus Professor David Phillips OBE, Senior Research Investigator at Imperial, received a Fellowship for his services to science education. Professor Phillips (pictured left) is a prodigious researcher, the author of 583 publications, and founder of the spin-out company PhotoBiotics, which is developing targeted photodynamic therapy for cancer and age-related macular degeneration. In 1999 he was awarded an OBE for his service to science education. He set up the Schools Liaison Office, now known as Imperial Outreach, which now organises over 85 outreach activities each year. He says: “It is a matter of great pride to receive the Fellowship. To be valued by one’s internationally renowned colleagues at such a prestigious institution is humbling! I thank deeply all colleagues who contributed to the activities which led to this award.”

Associateship
Anne Barrett, College Archivist and Corporate Records Manager, received an Associateship of Imperial College at the ceremonies. Anne (pictured left) carries out vital work to raise the profile of the archive and open it up to researchers both internally and externally. She joined Imperial’s Central Library in 1982, going on to become the College Archivist in 1989. Under her leadership Imperial’s archives have attracted important deposits and an increased number of users, thanks to developments such as automated systems and the Collegewide Records Management System.

Commenting on the day, Anne Barrett said: “I feel greatly honoured by being made an Associate and the award proves the centrality of the archives to the functions of College, past, present and future.”

Outstanding
Also presented at the ceremonies was this year’s Outstanding Achievement Award, presented to fourth year medical student Sukhpreet Dubb (pictured right) for founding the Vision outreach conference and helping to lead the MedEx conference, both of which aim to help and inspire prospective medical students from less privileged backgrounds. He says: “Being in the Royal Albert Hall to receive the gold medal award in front of 7,000 graduands and family members, including my own parents and younger brother, is an unforgettable experience and privilege that I will always cherish.”

Honories
Honorary degrees were awarded to (pictured clockwise from top left) Mme Anne Lauvergeon, Chief Executive of leading nuclear energy company Areva, Sir William Castell, Chairman of the Wellcome Trust, Lord Wolfson of Marylebone, co-founder of the Wolfson Foundation, and Professor Christian Bréchot, renowned cell biologist and hepatologist.

Moving on up
This year’s Commemoration Day ceremonies, held in the Royal Albert Hall on 22 October, saw the graduation of over 2,100 undergraduate students from more than 30 different countries, making these the largest Imperial has ever held.
Moving on up

The College also awarded three Teaching Fellowships, recognising innovative and high-quality teaching, and three Rector’s Awards for Excellence in Pastoral Care, a new award for staff who have made exceptional efforts to provide a supportive learning environment for students.

Teaching Fellowships

The first of the fellowships was awarded to Professor Karim Meeran (pictured left) for his work in the Faculty of Medicine. Professor Meeran became course director for year 5 pathology in 2004. Under his leadership, this subject has expanded to become an integral part of the undergraduate medical course.

Professor Meeran spearheaded the College’s e-learning strategy and is responsible for the development of a user-friendly student feedback system now used throughout the College.

The second teaching fellow awarded was to Dr Lynda White, Senior Tutor in the Department of Mathematics (pictured left). She is involved in all aspects of the teaching programme for around 750 undergraduates and over 100 postgraduates.

She says: “It is a great pleasure to work with so many bright and interesting students so the award and the excitement of the Commemoration Day ceremony have been a delightful bonus. Students can sometimes face problems which affect their studies and to see these same people graduate successfully in spite of their difficulties is very rewarding. I also get a lot of satisfaction from teaching and trying to communicate my own love of mathematics in innovative ways. One of my lectures includes a water pistol fight which always goes down well!”

The final teaching Fellow for Innovation award was principally for my work in the first year biology and biomedical science streams, smoothing the transition between secondary and tertiary education. I had previously been involved in the INSPIRE scheme, and the time I spent learning to teach at secondary schools has been formative in my approach to teaching here at Imperial. Receiving an award in the Albert Hall is guaranteed to be an unforgettable experience, and I’m delighted that the students made it such a wonderful one with their cheers.”

—NAOMI WESTON AND EMILY ROSS, COMMUNICATIONS

Figuring it out

Have you ever wondered who makes up the diverse population of Imperial staff? HR have kindly provided the information below.*

58%/42% is the male/female ratio among staff.

515 of our employees have been in post for more than 20 years.

505 staff are employed by the National Heart and Lung Institute (making it the department with the most staff), followed by the Department of Surgery, Oncology, Reproductive Biology and Anaesthetics (412) and Department of Physics (386).

113 is the number of different countries which our employees come from. Following the UK, the most popular countries of origin are: Italy, France, Germany, Greece, China, Irish Republic, United States, Spain and India.

512 professors work at Imperial (398 non-clinical and 114 clinical).

69 employees were on sponsored study during 2007. Total cost of these studies, ranging from Master’s degree to professional qualifications, was £126,806 with the College contributing 79%.

2,395 staff work for the Faculty of Medicine—the Faculty with the largest number of College employees.

*All data from 2007-08

If your department has some interesting statistics you’d like to share with the rest of the College, please forward them to Reporter at e.ross@imperial.ac.uk
Raising the bar
Over the summer the Student Union bar at the Charing Cross Campus underwent a major facelift. The walls have had a fresh coat of paint, new fixed seating has been installed and the bar has been kitted out with a state of the art touch-operated DJ booth and light system, giving students a chance to DJ for the night or try their hand at lighting events.

Mark Chamberlain, Imperial College School of Medicine Student Union President, comments: “It’s been great seeing people come in and seeing how surprised they are at the new look—it looks so different. We’ve already used it for lots of fresher events. It’s going to provide a really nice place for people to go and relax and have fun.”

— Emily Ross, Communications

Inspire: Innovative Scheme for Postgraduates in Research and Education
Over the next nine months Reporter will be following the progress of two postdoctoral researchers who have just embarked upon Imperial’s Inspire scheme—a programme in which participants spend seven months studying towards a Postgraduate Certificate in Education then spend two months conducting science clubs, demonstration lectures, masterclasses and university visits for school children with the ultimate aim of encouraging more students to study science in higher education.

Dr Rachel McIlwaine, who completed a PhD in non-linear kinetics at Leeds University, is working at St Saviour’s and St Olave’s Church of England School in Elephant and Castle. She says: “At the moment everything is scary, from bad behaviour to learning all their names! Plus the children aren’t impressed by someone who has a PhD; all they want is someone who shows them respect and can make a class interesting.

“Last week I watched a double science GSCE class dissect a lamb’s heart—it was absolutely amazing to see how responsible they were and brilliant to see them being empowered to do things themselves.

“My aim for the next few months is to learn how to teach a great lesson and to inspire them. The teachers at the school are so patient and friendly even at the end of the day—it is incredible”

Dr Vincent Piccio, who completed an organic chemistry PhD at the University of Bath is working at Riddlesdown High School in South Croydon. He says: “Last week in science club we challenged the children to make the biggest bubble possible using soap, water and glycerol. The girl who won the task managed to create an absolutely massive bubble—you should have seen the smile on her face!

“At the moment the thing I’m finding the most daunting part is the tougher students—I’m not quite sure how to approach them. And after two hours of speaking, standing, walking and explaining things, I feel totally exhausted—teaching is like taking up a sport!

“My aim for the next few months is to learn how to manage my time in the classroom and spend less time planning.”

— Emily Ross, Communications

For more on the Inspire scheme visit: www.imperial.ac.uk/inspire

A hub of information
If you encounter a confused student, there’s a good chance the Student Hub will be able to help them out with their queries. The Hub is a one-stop shop pulling together all the main aspects of student support. The team can offer advice on a range of issues from fees and funding, accommodation and welfare, to IT and international students’ support. Students can also use the Hub’s referral service if they need specialist advice from a department in the Hub area, such as the Registry, Finance and Accommodation.

Direct students to Level 3 of the Sherfield Building on the South Kensington Campus. They’ll find the Hub open every weekday, 9.30–17.00 Monday, Tuesday, Thursday and Friday and 10.00–17.00 on Wednesdays.

— John-Paul Jones, Communications

What do you think of the Student Hub?
“I’ve just been to sort out my bursary forms. I’ve been here before when there was a mistake with my fee status and the student hub sorted it out straight away. I’ll definitely be coming again if I have other issues—I think it’s a really good service.”

— Gurdeep Singh (Mathematics)
celebrating long service

20 years

Professor Sevket Durucan (Earth Science and Engineering)
Professor Durucan started at Imperial in September 1988 as a lecturer and joined the then Mineral Resources Engineering Department in the Royal School of Mines where he contributed to the training and education of future mining engineers. He says: “Perhaps the most striking and appealing character of the College that attracted me at the time was the international nature of Imperial’s student body and its research in particular.”

Professor Durucan was promoted to a Reader in Environmental Engineering in 1994, and to the Chair of Mining and Environmental Engineering in 1998. Over the years, he has particularly enjoyed his role as Director of Research in the Departments of Earth Resources Engineering and Environmental Science and Technology. He says: “My work and research at Imperial benefited a great deal from the contributions made by my close colleagues, research fellows and students whom I worked with for many years within my Research Group. As my first head of department 30 years ago, when I worked at Nottingham, used to say, ‘Our job is to help people fulfil their potential’. My proudest moments at the College have always been the times when I witnessed, or heard about, the achievements of my former graduates, researchers and colleagues I worked with in our Group.”

30 years

Dr Andrew Forrest, • Lecturer (Mechanical Engineering)
Mr Faruq Noormohamed • Anaesthetic Laboratory Manager/Administrator (SORA)
Mr Nick Royall • Technician (Materials)
Professor Henry Rzepa • Professor of Computational Chemistry (Chemistry)
Dr Edward Smith • Lecturer (Chemistry)
Mrs Mary Symons • Service Management Analyst (ICT)

40 years

Dr Rodney Coleman, Senior Lecturer (Mathematics)
Dr Rodney Coleman started working at Imperial College in 1968 as an Assistant Lecturer in the Department of Mathematics after studying at Leeds and Cambridge Universities. Specialising in statistics and stereology (a field that is largely concerned with the three-dimensional interpretation of planar sections of materials or tissues), he became a lecturer in 1971 and was promoted to Senior Lecturer in 1991. He has always found the Department of Mathematics to be a very happy and friendly place to work in. Comparing working at Imperial 40 years ago to today, the says: “When I arrived, the intake was only 60 students, now it’s 260. The biggest changes, however, would be technology, the use of calculators, computers and the web. But teaching is much the same. The students are well behaved and kindly people.”

Dr Coleman has been researching methodologies for quantifying banking risk for the last 10 years—now a very hot topic. He is currently writing a book on this subject which he plans to publish in the near future.

Feels like this...

‘Balance’ by artist Steve Russell, who will be exhibiting in the Department of Humanities, Level 3 Sherfield Building, South Kensington Campus on 10 November–12 December 2008.

Obituaries

Dr George Murdie •
Dr George Murdie, a former biology lecturer at Imperial, died on 10 July 2008.

John Galley, who worked with George at the College, pays tribute: “George was born into farming near Newcastle and took his first degree in agriculture at Durham University before joining Imperial’s Department of Zoology and Applied Entomology in 1960, to study pea aphid biology at Silwood Park. Here he married his wife, Biddy, who was also employed at Silwood, was awarded his PhD in 1965 and appointed to the staff as a quantitative biologist. He developed many programmes on the College’s mainframe computer and his skill in explaining this rather novel approach soon gathered a large following of students, including our present Rector. All were eager to be guided through this new wonderland of means, variances and probability which had as its chalkface the computer terminal in the Silwood Reactor Centre. When the family business was left to him, he transferred this interest to a farm near Oxford, and went part-time at Imperial. Later, and with considerable sadness, he chose to give up his College duties and return full-time to the land. Never one to rest, he was soon fully integrated into the local community and was a leading light in various village committees. George leaves a huge void in the lives of his family, his former colleagues and all those who had the good fortune to have found themselves within his orbit.”

Staff featured celebrate anniversaries up to 31 October. Data is supplied by HR and is correct at the time of going to press. For a full version covering this period please visit the online supplement to this edition: www.imperial.ac.uk/reporter
Lawn tennis club

No one can question the dedication of the Imperial College Lawn Tennis Club (ICLT); embracing the unpredictable English weather, its members meet throughout the year playing in heat waves, gale force winds and soaking downpours.

Dr Andrew Dowsey, a postdoctoral researcher at the Institute of Biomedical Engineering, describes the lure of the club. He says: “I’ve been playing tennis since I was four and although I gave up in my teens I started again when I joined the College. It is one of the most enjoyable ways of getting exercise; it is great to play one on one with other members and it’s given me the opportunity to play with people of county standard, and also a few national players. Add to that I’ve met some of my best friends through the club.” Dr Dowsey joined the club in 2000. He became second team captain in 2001 then went on to become club chairman. He remembers, when he was a student, being phoned up at the last minute by a team member and asked if he wanted to compete in a match in Canterbury that afternoon. He says “The only way I could make it in time was by cycling to London Bridge then getting a train to Canterbury, then cycling to the Canterbury campus which was another four miles. When I got to Canterbury I cycled in the wrong direction but eventually got there only an hour late! After an experience like that you can’t help but bond with people!” As well as the weekly games, the society organises team dinners, socials and tours abroad where members get to train in a different setting and play against a local teams.

—Emily Ross, Communications

Meeting times: Saturdays, Queens Club, West Kensington 19.00-21.30
Sundays, Holland Park for social tennis 12.00-15.00
Society size: 90

letters to the editor

Dear Editor,

“Oh no, there is no such thing as a Humanities Department at Imperial,” said the Biology member of staff to an undergraduate last week. He shall remain nameless, but only because we don’t know his name… We assure him that there is a large, thriving Department of Humanities at Imperial, in splendid new accommodation in Sherfield Level 3.

If the Biology chap took the trouble to come along, he would be amazed to find out that we teach some 1,300 undergrads per year on our daytime language courses alone, everything from Arabic to Spanish. He would be impressed by all the postgraduates on the Science Communication courses, debating in groups over coffee, and surprised at the polyglot discussions of our postgraduate technical translators here. We also have the RAE 5-rated Centre for the History of Science, Technology and Medicine.

Nowadays employers like their new recruits to show that they have completed a course in ethics and are pleased that they can lead projects in German if need be. They want scientists and engineers who can express themselves. Humanities also gives students a creative and critical outlet, through music technology or creative writing for example.

We will forgive you, Mr Biology, but only if you promise to come along and think about signing up on the fantastic (and very competitive) evening class programme here in Humanities. Shall I put you down for the Pleasures of Opera?

Regards,
Anna Nyburg (Humanities)

Silwood fun day

A science fun day and summer school were held at Silwood Park Campus on 5 October as part of the Open Air Laboratories (OPAL) project. Over 300 young people and their families took part in a wide range of hands-on science activities. Activities included making molecules out of marshmallows, looking at the world through a microscope, and exploring colour through chromatography. Attendees who took part in six or more activities were presented with a “Young Scientist” award. Guided tours of the OPAL Air Centre and the Centre for Population Biology’s ‘Ecotron’ were also on offer.

—Dr Emma Green (Biology)
what's on

3–7 NOVEMBER
Healthy Living Week
Free lunchtime activities to promote a healthier lifestyle
First come, first served
www.imperial.ac.uk/sports/news/healthylivingweek

5 NOVEMBER
12.30–14.00
Women of Imperial lunch with guest speaker Dame Margaret Turner Warwick
170 Queens Gate
Registration in advance: c.packham@imperial.ac.uk

5 NOVEMBER
17.30–18.30
Energy Futures Lab Annual Lecture 2008
John Hutton MP, Secretary of State for Business, Enterprise and Regulatory Reform
Lecture Theatre G66, Sir Alexander Fleming Building
Registration in advance: energyfutures@imperial.ac.uk

5 NOVEMBER
17.30–18.30
Invisible technologies: micro-engineering for an intelligent, interconnected world
Professor Eric M. Yeatman, Professor of Microengineering
Inaugural Lecture
Clore Lecture Theatre, Huxley Building
Registration in advance: l.brown@imperial.ac.uk

10 NOVEMBER
17.30–18.30
The energy challenge
Professor Chris Llewellyn Smith, Director of UKAEA Culham Division
The Gabor Lecture 2008
Lecture Theatre G66, Sir Alexander Fleming Building
Registration in advance: l.brown@imperial.ac.uk

11 NOVEMBER
17.00–19.30
Foyle Launch
Reception to launch the Foyle Science Scholarships
58 Prince’s Gate
Registration in advance: lucy.bean02@imperial.ac.uk

12 NOVEMBER
11.00–14.00
Inventors’ workshop: Turning ideas into inventions
Professor Justin Cobb (SORA), Professor Steve Bloom (Investigative Science) and Hugh Penfold (Imperial Innovations)
Rothschild Lecture Theatre, St Mary’s Hospital
Registration in advance: innovate@imperial.ac.uk

19 NOVEMBER
19.00–22.00
The eco-cities of China: can they teach us a lesson?
Peter Head, Director of Arup, Chairman of the London First Sustainability Unit
Skempton Building
Registration in advance: admin@friendsofimperial.org.uk

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

take note

Pay award
The September pay award figure for 2008 has been confirmed as 5 per cent. It is the College’s intention to pay the 5 per cent increase in the November payroll and backdate the award to 1 October 2008.

For more information visit: www.imperial.ac.uk/hr/pay0809

classifieds

Warden and Assistant Warden posts
The College invites applications for the posts of Warden of Tizard Hall and Assistant Warden at Holbein and Willis Jackson Hall. Wardens and Assistant Wardens are responsible for the smooth running of the Hall and will receive rent-free accommodation in the Hall in return for pastoral and administrative duties. For more information and an application form, please contact Anna Thomas-Betts: a.thomas-bts@imperial.ac.uk

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

volunteering

Homework helper
Project: Homework Club Volunteer
Project ID: 1975
Organisation: The Rugby Portobello Trust
Location: Walmer Road, nearest tube Holland Park

The Rugby Portobello Trust, a charity which works with the young people to provide a positive alternative to a life of crime, deprivation and social exclusion, is looking for volunteers to help run an after-school homework club for disadvantaged children aged 7–11. Volunteers will work in a team assisting children with their homework assignments, helping them avoid falling behind at school and creating a positive atmosphere that encourages the children in all aspects of their lives. Volunteers are required to make a 2–3 month commitment to the project.

For more information
To take part in a scheme or to hear more about volunteering in general, contact Petronela Sasuurova +44 (0) 20 7594 8141 volunteer@imperial.ac.uk

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

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