Imperial College London

reporter

Issue 206 ▸ 11 June 2009

Sharing stories of Imperial's community

Buried **treasure**

Opening up the College Archives CENTRE PAGES

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EDITOR'S CORNER

Picture this

With just 16 pages in each *Reporter* and three weeks worth of stories to cram in, I'm constantly weighing up the pros and cons of including more pictures or more words. And while I instinctively favour the written word, I have to admit that sometimes **pictures do speak louder than words**. The power of photography to instantly capture emotions struck me whilst walking through the Blyth Gallery in the Sherfield Building earlier this week. The vibrant faces on display in the **Outreach exhibition** drew me in—from staff volunteers enjoying the opportunity to give something back to the community, to school pupils discovering science for the first time during one of the summer schools—their smiling, engaged expressions say it all.

EMILY ROSS, EDITOR
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Reporter is published every three weeks during term time in print and online at **www.imperial.ac.uk/reporter**.
The next publication day is 2 July. We welcome contributions from across the College. Please contact Emily Ross:
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Cover illustration: ***nineteenth-century teaching banner housed in the College Archives. An illustration of Glyptodon, a large prehistoric mammal related to the armadillo.***

Graduate internship programme

The College's new Graduate Internship Programme aims to assist recent graduates in the challenging economic climate, offering them experience of working for a university and enhancing their future employability.

Interns on the programme will undertake a paid six-month placement within a College department. By reporting to a senior manager and getting involved in the day to day running of the College, they will gain hands-on experience of university management and develop core skills.

Graeme Rae, Graduate Internship Programme Manager, will act as mentor to the interns. He says: "These internships offer a fantastic opportunity for graduates to pick up some vital work experience and get a leg up to the workforce."

The internships are being introduced thanks to £168,000 from the Higher Education Funding Council for England's Economic Challenge Investment Fund (ECIF), which was set up to enable the sector to respond rapidly to the needs of groups particularly affected by the current economic downturn by offering opportunities for skills development.

Recruitment is now open for 16 internships, each lasting six months. The first cohort will begin in August 2009.

—NAOMI WESTON, COMMUNICATIONS

For more information please visit: **www.imperial.ac.uk/staffdevelopment/internship**

SRIF2 fund creates far-reaching benefits

Government funding has led to the development of cutting edge research facilities at the College, highlights a report commissioned by the Higher Education Funding Council for England published in May.

Fifteen different research projects across the College have benefited from the second Science Research Investment Fund (SRIF2), established by the Department of Innovation, Universities and Skills to contribute to the long-term financial sustainability of higher education institutes.

At Imperial, investment in facilities is key to supporting world class research. Professor Sir Peter Knight, Senior Principal, said:

"The science base is as productive as it has ever been in the UK. Output from this science will help us to recover from the current economic downturn. It is therefore crucial that this vibrant science base continues to be supported and to be underpinned by world class infrastructure."

Key areas of the College's work which have been supported by SRIF2 include the Institute of Biomedical Engineering. New equipment is helping students develop their surgical skills with a virtual operating theatre.

The SRIF2 scheme also funded Imperial's Cross Faculty Centre for NMR, which allows researchers to investigate the fundamental processes in science.

—NAOMI WESTON, COMMUNICATIONS

For more information about research: **www.imperial.ac.uk/research**

The SRIF2 fund has helped to pay for research and teaching equipment for the Institute of Biomedical Engineering.

Imperial College London

calling all academic staff

The College needs more academic staff to complete the 2009 TOAST survey when asked, so that results will be accepted by the government. Findings will be used to calculate the College's rates for research grants and contracts applications.

For more information please visit: **www.imperial.ac.uk/planning/toast** or email **TOAST@imperial.ac.uk**

Last dance at Wye Campus

Nearly 300 staff and students—past and present—marked the end of academic activity at the Wye Campus this summer with the 'Last Dance' farewell party on 29 May. Partygoers enjoyed live music and dancing, a giant cake in the shape of the Wye Crown and, for those still awake, a survivors' breakfast.

Pictured: Jenny Bough, Director of Undergraduate Studies at Wye Campus, about to cut the Crown-shaped cake, watched by Tommy Alemayehu, President of Wye Campus Students Union (WCUS) and Coral Came, WCUS committee member.

"It was fantastic to see so many current and former members of Wye come together to celebrate their time with the College," said Carol Jovanovic, Wye Campus Manager. "The party was planned over several months by a dedicated team of staff and students on campus, and it was great that all their hard work really paid off on the night."

The end of research and teaching activity at Wye Campus follows the closure of the Department of Agricultural Sciences in 2004—responding to a steep decline in applications to study agricultural courses countrywide—and the University of Kent's decision to move the Applied Business Management courses, which it has run on Imperial's behalf since 2007, to its Canterbury campus.

Other events to mark the closure of the campus—which merged with Imperial in 2000—include a church service, village picnic and the 'End of an Era' ball organised by the Agricola Club, Wye's alumni association.

The College's professional advisers, Savills, are continuing to market the main Wye Campus, ideally for use as a centre of learning. In the meantime, a small team of staff will remain at Wye to help maintain the buildings and grounds.

— WENDY RAESIDE, COMMUNICATIONS

Three staff members join Royal Society

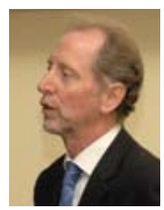
A microbiologist, a theoretical physicist and a structures expert from Imperial joined the Fellowship of the Royal Society last month, among the 44 new fellows elected in 2009.

Professors Martin Buck (Biology), Michael Duff (Physics) and Robert Ainsworth (Mechanical Engineering) were recognised for their contributions to science and are now permitted to use the letters FRS after their name. They bring the number of Royal Society Fellows at Imperial to 66.

Martin Buck, Professor of Molecular Microbiology and Deputy Head of Division, was praised by the Royal Society for his 'pioneering contributions to our understanding of molecular mechanisms of transcription initiation in bacteria'. Professor Buck's research explores how genes are controlled in response to environmental changes.

Professor Buck said: "Support from colleagues in the field, past and present, has been especially important in helping to address new questions in what has become a fast moving area."

Michael Duff, who has held the Abdus Salam Chair of Theoretical Physics since 2006, specialises in theories that unify the elementary particles. During the 1980s, he championed the concept of 11 space-time dimensions (11D). Now he works on M-theory, which unifies his work on 11D with string theory,



From top to bottom: Professors Martin Buck, Michael Duff and Robert Ainsworth

and includes finding evidence for the phenomenon of supersymmetry. This is one of the first things scientists will be looking for when they switch on the Large Hadron Collider at CERN, where Professor Duff worked as Senior Physicist 1984–87. He said: "One of the things I have enjoyed overall about my career is that rare excitement of stumbling across something completely new, and the extra-ordinary feeling of seeing something that no-one else yet knows about." The third new Fellow, Robert Ainsworth, visiting professor in Mechanical Engineering, was elected to the Fellowship for his research in structural integrity and its use in assessing the safety of nuclear power generation plants.

—NATASHA MARTINEAU, COMMUNICATIONS

in brief

Review of Humanities

Over 150 College members gathered on Dalby Court on 3 June protesting against proposals to review Department of Humanities teaching for undergraduate courses. The proposals, reviewed and accepted by Management Board and Senate, seek to bring Humanities teaching more in line with the needs of the faculties and the strategic goals of the College. In the future it is likely that language teaching as part of degree programmes will focus on German, French, Spanish and Mandarin, with other language options continuing to be available as evening classes. Consultation continues on the proposed changes.

Imperial alumnus in space

An Imperial aeronautics alumnus is set to become the first Dane in space, after being named last month as one of six of the European Space Agency's newest astronauts. Andreas Mogensen, who graduated in 1999, now joins the European Astronaut Corps and begins training for future missions to the International Space Station beginning in 2013. Andreas said he was "proud and thrilled" to be chosen.

"What's the media's relationship to science? It's like the media's relationship to any other complex area like politics or financial derivatives. It's the link between the people who do things and know things, and the people who might be interested in understanding them."

—ALAN RUSBRIDGER, EDITOR OF *THE GUARDIAN*, IN CONVERSATION WITH THE RECTOR AT THE SCIENCE AND THE MEDIA EVENT ORGANISED BY THE SCIENCE COMMUNICATION GROUP AND THE GRADUATE SCHOOLS.

Imperial College Healthcare NHS Trust

Trust's liver surgery is best in the UK

Independent data from *Dr Foster Intelligence* has shown that Imperial College Healthcare NHS Trust has a zero per cent mortality rate for surgery to remove liver tumours.

The report shows that of all the centres in the country performing more than 50 cases a year of this type of complex surgery, the Trust is the only one with no patient deaths. Mr Nagy Habib, the Trust's chief of service for surgery, attributed the outstanding results to technology developed by his team which minimises the significant risk of blood loss associated with liver resection surgery.

The technology works by inserting four needles along the boundary of the tumour and then sending radio wave frequency through the needles. The heat generated by the radio waves causes the blood vessels in the liver to close, preventing bleeding when the tumour is cut away.

The need for a blood transfusion, which is common when using traditional techniques for this type of surgery, is effectively eliminated. The patient is also far less likely to need intensive care treatment and instead can return home within a week.

Cardiothoracic ward opens

A newly refurbished ward dedicated to the care of pre and post operative cardiothoracic patients has opened at Hammersmith Hospital. A9 ward replaces a previously mixed cardiology and cardiothoracic ward and offers patients single sex accommodation in four spacious, partitioned bays with four side rooms. Stephanie Lloyd, sister on A9, said: "We've received positive feedback from patients since we opened at the end of April. It is easier for us to do our job now we have so much more room in each bay."

Cardiothoracic surgery involves surgical treatment of diseases affecting organs inside the thorax (chest).

—IMPERIAL COLLEGE HEALTHCARE NHS TRUST PRESS OFFICE

Outreach exhibiton

The College's annual Outreach photo exhibition, launched on 9 June in the Blyth Gallery on the South Kensington Campus, offers insight into the wide-ranging voluntary activities undertaken by staff and students, and programmes that aim to raise aspirations among school children.

Speaking at the celebratory launch event, Rector Sir Roy Anderson commended the work of the Outreach Office, which runs a variety of schemes for school children and coordinates other voluntary projects. He went on to present certificates to staff and student volunteers, congratulating them for their enthusiasm and commitment.

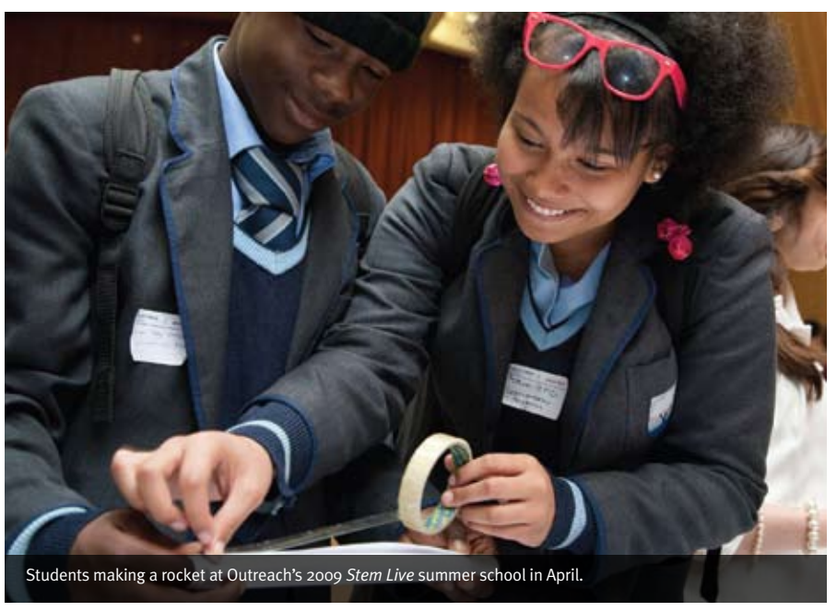
Among programmes that benefit from the work of the volunteers are those in local state primary and secondary schools, which aim to encourage pupils to consider applying to higher education and inspire an interest in studying science, engineering and medicine.

Speaking of the work of the Outreach Office, Melanie Thody, Director of Access, said:

"Outreach activities aim to recruit students to Imperial and raise aspirations in science amongst young people from an early age. These activities are important to the College as we are looking for the brightest and the most able students. We are also looking in the most disadvantaged areas and schools so we are hoping to reach a very wide audience."

—NAOMI WESTON, COMMUNICATIONS

For a web gallery of the photos and a video about the exhibition, visit: **www3.imperial.ac.uk/news/outreachshow**



Students making a rocket at Outreach's 2009 *Stem Live* summer school in April.

Management changes in Registry

Following Mr Bob Westaway's resignation as Academic Registrar last month, a number of management changes have taken effect in Registry, with Professor Julia Buckingham, Pro Rector (Education) retaining overall responsibility.

Mr Nigel Wheatley, Deputy Academic Registrar, has become Acting Academic Registrar, fulfilling duties required by the College's procedures and regulations. He also has responsibility for educational governance and quality assurance. Mr Wheatley will report directly to Professor Buckingham.

Mr Andrew Murphy, Director of Finance, has taken over responsibility for Registry Operations in addition to his current responsibilities. He reports to Professor Buckingham in respect of this activity.

Ms Lorna Richardson, Deputy Academic Registrar, is combining oversight of Student Records with her existing responsibilities for Admissions, and forms part of the Registry Operations team.

Mr Mel Tamplin, Head of Accounting Operations in the Finance Division, has taken on new responsibilities as Head of Registry Operational Change. Mr Tamplin will lead the delivery of key changes to operations and systems proposed in the 2008 review of Registry services. Both Ms Richardson and Mr Tamplin report to Mr Murphy.

media mentions

—COLIN SMITH, COMMUNICATIONS

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The Times ▸ 10.5.2009

Tapping into the benefits of recycled sewage

Recycling sewage into drinking water could become reality under a radical scheme being developed by Thames Water to top up the capital's water supplies, *The Times* reports. The idea is one of several being considered by the company in its effort to address the threat of a severe water shortage resulting from rising population and a decrease in rainfall due to climate change. "Whether you like it or not, it's going to happen," commented Professor David Stuckey (Chemical Engineering and Chemical Technology). "Even with our climate, much of the country's population is in water-scarce areas, including London. We have 12–15 million people living in a small area in south east England but most of our water is in the north west."

THE TIMES ▸ 17.5.2009

Experts call for rethink on sourcing biomass

The government's crusade against climate change could turn Britain into the biggest dump for environmental flotsam in Europe, reports *The Times*. Using plant and organic waste (biomass) will need far more fuel than Britain can currently produce, say experts calling for a rethink on the announcement of generous government subsidies for companies that take this approach. When asked what the effects would be of importing biomass, such as left-over woodchips, to fuel power plants, Professor Richard Templer (Chemistry) commented: "With importing, you don't know if the trees are being logged sustainably, if they are being replanted."

BBC NEWS ONLINE ▸ 20.5.2009

C-sections 'a rational choice'

Emeritus Professor Phillip Steer (SORA) has spoken out in defence of Caesareans as an important alternative to natural childbirth in the *Scrubbing Up* column for *BBC Online*. He says the technology of surgery, anaesthesia, blood transfusion and antibiotics has dramatically improved outcomes in developed countries, so that mortality is now one in 10,000 or fewer. "Delivery by Caesarean section now accounts for almost a third of all births in many developed countries, and is remarkably safe—certainly as safe as many of the cosmetic operations that do not excite similar criticism."

THE TIMES ▸ 1.6.2009

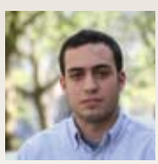
Doctors say homeopathic treatments could put lives at risk

Homeopathic treatments still continue to be sold as treatments for HIV/AIDS, malaria and other serious diseases, even though doctors say they contain no active ingredients, reports *The Times*. In an open letter to the World Health Organisation (WHO), an association of young doctors and scientists has urged the UN's health body to make clear that homeopathy cannot prevent or treat serious diseases, amid fears that patients are dying after turning to homeopathic preparations. Duncan Casey (Chemistry) commented: "This isn't the difference between two schools of medicine; this is like comparing a 747 to a magic carpet. The magic carpet is a lovely idea—but which would you rather trust with your life?"

awards and honours

NATURAL SCIENCES

PhDs win prizes



Two early-career physics researchers have been awarded prestigious prizes for their PhD theses from the European Physical Society (EPS). Dr Fernando Brandao (top) received the fundamental thesis award for his work on quantum information theory, and Dr John Travers (bottom) received the applied prize for his thesis on fibre supercontinuum generation. Both awards were made by the EPS's Quantum Electronics and Optics Division.

MEDICINE

Asian Women of Achievement award

Nishi Chaturvedi, Professor of Clinical Epidemiology (NHLI), was shortlisted for Professional of the Year in this year's Asian Women of Achievement award. Professor Chaturvedi is Co-Director for the UK Diabetes Research Network and Chair of the Populations and Public Health Panel of the Wellcome Trust. She was also awarded one of the first 100 National Institutes for Health Research Senior Investigator Award in 2008.

MEDICINE

Buckingham wins prize

Professor Julia Buckingham, Pro Rector (Education), has been awarded the 2009 AstraZeneca Prize for Women in Pharmacology by the British Pharmacological Society. The prize recognises women whose career achievements have contributed significantly to the public's understanding of a particular field through excellence in research. The prize of £1,000 will be presented at the society's official dinner at their winter meeting in December.

ENGINEERING

Royal Academy of Engineering awards

The Royal Academy of Engineering has awarded Engineering Leadership Advanced Awards to undergraduates Ian Hunt and Robert Matthew (Mechanical Engineering), and Krunal Kumpavat (Electrical and Electronic Engineering). The Awards provide motivation and mentoring support for some of the most exceptional engineering undergraduates in UK universities. Awards worth up to £5,000 per student are made to provide students with carefully planned training and experience over three years.

The ultimate green 'fridge magnet'

Scientists are a step closer to making environmentally friendly 'magnetic' refrigerators and air conditioning systems a reality, thanks to new research published in *Advanced Materials* on 15 May.

Magnetic refrigeration technology could provide a 'green' alternative to traditional energy-guzzling gas compression fridges and air conditioners. They would require 20–30 per cent less energy to run than the best systems currently available, and would not rely on ozone-depleting chemicals or greenhouse gases.

A magnetic refrigeration system works by applying a magnetic field to a magnetic material—some of the most promising being metallic alloys—causing it to heat up. This excess heat is removed from the system by water, cooling the material back down to its original temperature. When the magnetic field is removed the material cools down even further, and it is this cooling property that researchers hope to harness for a wide variety of cooling applications.

One of the authors, Professor Lesley Cohen (Physics), said: "This is vitally important because finding a low-energy alternative to the fridges and air conditioning systems in our homes and workplaces is vital for cutting our carbon emissions and tackling climate change."

Using the systems currently available, refrigeration and air conditioning units make a major contribution to the planet's energy consumption—in the USA, they account for approximately 50 per cent of the country's energy use in the summer months.

—DANIELLE REEVES, COMMUNICATIONS

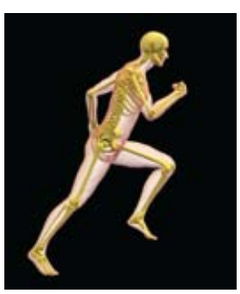
Mending broken bones

Nearly £4 million has been awarded to scientists from Imperial and the universities of Keele, Nottingham and Southampton, who will work together combining stem cell science and tissue engineering to look at the development and repair of human skeletal tissue.

Fractures, bone loss due to trauma or disease and other orthopaedic conditions pose a significant clinical and socio-economic problem, especially with an ageing population, but as yet there is no large-scale effective treatment for replacing or repairing damaged bones.

Over the next five years, the scientists will combine their expertise in skeletal stem cells, scaffolds and materials chemistry to identify the key growth factors, matrix proteins and physical conditions that will enhance tissue regeneration and ultimately lead to more effective skeletal repair strategies.

The research consortium comprises Professor Molly Stevens from the Department of Materials at Imperial,



Professor Alicia El Haj, Keele University, Professor Kevin Shakesheff, University of Nottingham and Professor Richard Oreffo, University of Southampton.

Commenting on the award, Professor Stevens said: "At Imperial we already have a very active multidisciplinary team developing novel biomaterials for regenerative medicine and biosensing. This grant is very exciting as it will enable us to focus specifically on developing new injectable biomaterials for use in clinical situations, such as severe fractures that would not otherwise heal. The research programme will be very valuable in pushing forward new collaborations for the in-depth investigation of the physical and biological properties of the materials, so that translation to the clinic is facilitated."

—BBSRC PRESS OFFICE

Is the environment damaging our health?

The damage that our modern living and working environment could be doing to our health will be investigated by the new £5 million MRC-HPA Centre for Environment and Health at Imperial and King's College London launched on 1 June.

The new Centre will analyse the health of people across the UK and how this is affected by aspects of the environment in which they live and work, from traffic fumes and noise from overhead aircraft, to chemicals in the environment such as the by-products of disinfection in the water supply.

The Centre will particularly focus on vulnerable people, including children and the elderly, and on how environmental factors outside their control could be increasing their risk of respiratory problems, heart disease and cancer.

> "Our new Centre is developing methods to look at the exposure of many thousands of people"

The Centre is core funded by the Medical Research Council (MRC) and the UK's Health Protection Agency (HPA), with the two universities funding new posts and studentships. Its researchers will be working with the HPA so that if their work reveals a new health risk, the HPA can take account of the Centre's findings in its advice to government.

Professor Paul Elliott, Director of the Centre, said: "Your body has to deal with hundreds of different pollutants every day, the vast majority of which are probably harmless. However, we know that some pollutants can cause health problems, for example, some of the minute particles found in diesel fumes can make people's asthma symptoms worse.

"It's quite difficult to work out whether certain pollutants are affecting our health because we are exposed to so many, over such long periods of time. Our new Centre is developing methods to look at the exposure of many thousands of people. Through this research we will investigate the extent, for example, to which a particular chemical is contributing to a particular health problem."

—LAURA GALLAGHER, COMMUNICATIONS

Find out more about the Centre: **www.environment-health.ac.uk**

Deforestation causes 'boom and bust' development in the Amazon

Clearing the Amazon rainforest increases Brazilian communities' wealth and quality of life, but these improvements are short-lived, according to new research published in *Science* on 12 June.

The study, by an international team including researchers at the University of Cambridge and Imperial, shows that levels of development revert back to well below national average levels when the loggers and land clearers move on.

Since 2000, 155,000 square kilometres of rainforest in the Brazilian Amazon have been cut down for timber, burnt or cleared for agricultural use. Forest clearance rates have averaged more than 1.8 million hectares per year—roughly the area of Kuwait—and the deforestation frontier is advancing into the forest at a rate of more than four football fields every minute.

"Along with environmental concerns, this is another good reason to restrict further deforestation in the Amazon"

The team behind the study analysed changes in the average life expectancy, literacy and per capita income of people living in 286 Brazilian Amazon municipalities with varying levels of deforestation.

The researchers' analysis revealed that the quality of local people's lives increases quickly during the early stages of deforestation. This is probably because people capitalise on newly available natural resources, including timber, minerals and land for pasture. Higher incomes and new roads lead to improved access to education and medical care, and all-round better living conditions.

But author Dr Rob Ewers (Life Sciences) says: "Our data show that in the long run these benefits are not sustained. Along with environmental concerns, this is another good reason to restrict further deforestation in the Amazon," he says. "However, in areas that are currently being deforested, the process needs to be better managed to ensure that for local people boom isn't necessarily followed by bust."

—DANIELLE REEVES, COMMUNICATIONS

Meteorite bombardment may have made Earth more habitable

Large bombardments of meteorites approximately four billion years ago could have helped to make the early Earth and Mars more habitable for life by modifying their atmospheres, suggest the results of research conducted by Imperial scientists and published in the journal *Geochimica et Cosmochima Acta*.

When a meteorite enters a planet's atmosphere, extreme heat causes some of the minerals and organic matter on its outer crust to be released as water and carbon dioxide before it breaks up and hits the ground.

Researchers from the Department of Earth Science and Engineering suggest the delivery of this water could have made the atmospheres of Earth and Mars wetter. The release of the greenhouse gas carbon dioxide could have trapped more energy from sunlight to make both planets warm enough to sustain liquid oceans.

Researchers from Imperial analysed the remaining mineral and organic content of 15 fragments of ancient meteorites that had crashed around the world. Their aim was to see how much water vapour and carbon dioxide they would release when subjected to very high temperatures, like those experienced upon entering the Earth's atmosphere.

The researchers used a new technique called pyrolysis-FTIR, which uses electricity to heat the fragments at a rate of 20,000 degrees Celsius per second; then they measured the gases released.

Lead author of the study, Dr Richard Court (Earth Science and Engineering), said:

"Now we have data that reveals just how much water and carbon dioxide was directly injected into the atmosphere by meteorites. These gases could have got to work immediately, boosting the water cycle and warming the planet."

—COLIN SMITH, COMMUNICATIONS

Novel mechanism in allergic diseases

Research by Professor Peter Barnes (NHLI) and colleagues may explain the effectiveness of corticosteroids—common treatments for allergic inflammation. It may also identify targets for new treatments for allergic diseases, according to a study published in the open-access journal *PLoS Medicine* last month.

Allergic diseases, which affect about 50 million people a year in the US alone, are triggered when the immune system responds to a normally harmless material by activating a specific type of white blood cell called a T helper-2 cell (Th2). The Th2 cells make three proteins that are involved in cell signalling and are called cytokines, These are responsible for the inflammation associated with allergies. Corticosteroids are often used to treat allergic inflammation but it is not well understood how these corticosteroids work to inhibit the expression of Th2 cytokines.

Professor Barnes and colleagues suggest that corticosteroids reduce allergic inflammation through two interacting mechanisms which both inhibit the gene GATA-3, a key regulator of cytokine expression.

Commenting on the research, Professor Peter Barnes said: "Our research has highlighted an important new way in which steroids work to control allergic diseases such as asthma. The GATA3 gene works as a switch to control allergic inflammation. Steroids strongly inhibit GATA3 which is activated in certain immune cells of asthmatic patients. This explains why steroids are effective in treating allergic diseases. Understanding these new pathways has also highlighted potential new approaches to treating allergic diseases in the future."

—*PLOS MEDICINE*

Corticosteroids can help asthmatic patients by controlling allergic inflammation.

Buried treasures

From nineteenth-century lab notes and workshop instruments to former Rectors' graduation gowns and minutes from early Senate meetings, the College Archives on the South Kensington Campus play a vital role in preserving Imperial's heritage. College Archivist and Corporate Records Manager, Anne Barrett, guides us through the shelves.

Anne Barrett

Boxed to avoid UV damage and kept at a stable temperature and humidity to preserve the artefacts, Imperial's Archives were started in the 1930s and today hold a wide range of College treasures. They receive over 600 visitors every year, ranging from scientists and novelists, to those with an interest in reconstructing family history.

Anne Barrett has been working in the Archives since 1988 and has created a central resource for the College and the public which includes 150 different collections.

Imperial greats

The Archives are best known for their unique pieces relating to distinguished Imperial scientists including T.H. Huxley and Denis Gabor. Nobel Prize winner Gabor, who invented holography—a lensless system of three-dimensional photography—worked in the Department of Electrical Engineering between 1948 to 1967. Here he conducted many research projects including work on the first flat television tube. Besides Gabor's TV model, the Archives also has 51 boxes of Gabor's papers ranging from his Hungarian school certificate, to details of his wartime experience in Rugby and a number of family photographs.

The College Archives also hold the largest collection of Huxley's papers in the world. Anne says they are important, not just for finding out about the man himself—an eminent biologist, educationalist and statesman—but also for the links he had with contemporaries. For example, the Archives hold hundreds of letters between Huxley and Charles Darwin, and other prominent scientists of the time including Charles Lyell, Joseph Hooker and Ernst Haeckel.

Besides correspondence, the Archives contain Huxley's appointment diaries, scientific drawings, scenic watercolours, scientific notebooks, photographs and cartoons.

Anne explains that Imperial also lends artefacts from its specialist collections to museums to promote understanding about science and Imperial's scientists. For example, the Huxley drawings were loaned to the Science Museum for an exhibition celebrating Huxley's centenary in 1995, and copies of Huxley cartoons relevant to evolution have been supplied to Barnstaple Museum for their travelling exhibition on Darwin this year.

As well as preserving the history of well known Imperial scientists, the Archives also harbour the secrets of lesser-known staff members with fascinating Imperial stories to tell. One of Anne's favourite collections is that of Margaret Lacey, one of the few women who worked in the Department of Biology from 1920-48 as a Lecturer in Bacteriology. Anne recalls: "Margaret revisited College aged 90 in 1993 and deposited a photograph album of her career which included photos of her time in the Biology Department, based then in Beit Quad".

Teaching and social history

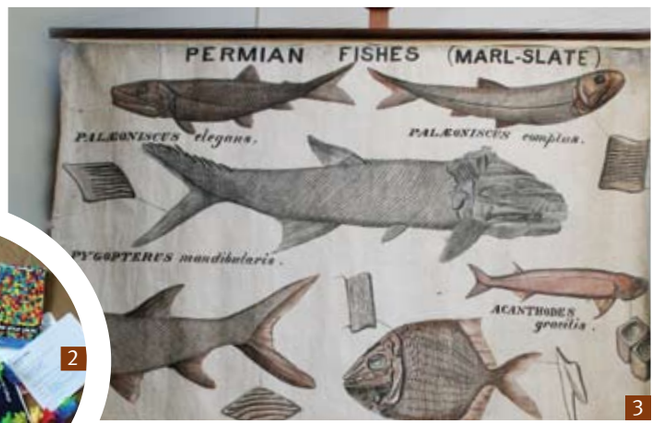
In addition to special collections on scientists, the Archives also house collections of the former independent institutes that merged with Imperial at the end of the twentieth century including the medical schools and Wye College.

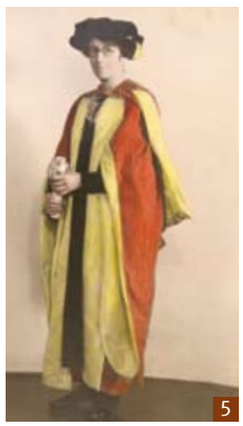
The items range from a photo from May 1966 of Queen Elizabeth II opening the Commonwealth Building at the former Royal Postgraduate Medical School (now Hammersmith Campus) to manorial records from Silwood Park showing that it is an ancient settlement.

Those interested in finding out what life was like at the College during the Second World War can read a set of papers written in the 1940s by chemist Dr H.J.T. Ellingham. They document what each department in the College contributed to the war in terms of research and production, how the College's Home Guard was formed and how the South Kensington Campus was secured through fire watching. The papers also include a diagram showing where bombs landed in the local area.

The Archives also hold a number of historical teaching materials including nineteenth-century teaching charts (seen on the front page of this issue) which would have hung in the lecture theatres—

> "an old lab book might be the key to understanding why current research isn't working, while Senate notes from 30 years ago contain the answer to why important College decisions were made"





the PowerPoint slides of their day. Anne says: "Many charts of this style were produced in Germany. They are printed on linen and backed, to stiffen the material making them more robust."

Collecting for the future

While archives are commonly associated with historical artefacts, Anne is keen to point out that there is more to the College Archives. She says: "It is a misconception that archivists spend their days sorting through dusty files—this is only part of what we do—we actually spend a lot of time collecting for the future."

Anne collects basic institutional material such as Senate and Council minutes, as well as event ephemera including pictures, Commemoration Day programmes, inaugural lecture invitations and posters for events. She is particularly interested in ephemeral material and collects copies of *Reporter* and *Felix* for this reason. She says: "A good archive is constantly updated. This way we preserve memories and insights into College life for future generations."

Anne explains how she decides what to keep in the Archives: "After a while you begin to get an instinct for what things might be useful for researchers in the future and also for future displays. For example, an old lab book might be the key to understanding why current research isn't working, while Senate notes from 30 years ago contain the answer to why important College decisions were made."

Anne and her team also run the College records management system and she is currently working with ICT to develop a system to capture the mass of information on the College websites which no longer exists in hard copy. She is also looking at ways of displaying some of the actual artefacts online. Her biggest challenge is to ensure that the integrity of the digital collections is protected, as software programs used today may be defunct in the future, rendering many documents unreadable.

Anne suggests that, in general, access to archival collections will develop online in the future but that physical collections of artefacts will always have a place. "Paper and parchment will never go out of use and neither will our inherent need to know where we come from — it helps us to progress. I collect today so that in another 100 years there will be just as much material, if not more, for the College to celebrate."

—EMILY ROSS, COMMUNICATIONS

To participate in College history by donating material, contact the Archives to arrange a visit: Room 455, Sherfield Building, South Kensington Campus. For more information please email: **cru@imperial.ac.uk** *or telephone: 020 7594 8850*

1. The elliptical gears are demonstration models for teaching purposes
2. Modern ephemera including memorabilia from the centenary celebrations
3. A nineteenth century teaching chart used in lecture theatres
4. Manorial records from Silwood Park which demonstrate it is an ancient settlement
5. Biologist Margaret Lacy on her graduation day in the 1920's—Margarets silk gown can also be found in the Archives
6. Denis Gabor's model of the flat television tube
7. A collection of photographs donated to the archive by former College staff
8. Queen Elizabeth II opening the Commonwealth Building at the former Royal Postgraduate Medical School (now Hammersmith Campus)

Making it happen

After 20 years working his way up the corporate ladder and serving on the boards of three FTSE 100 companies, last year Edward Astle left the corporate world to become Pro Rector of Commercial Development at Imperial. *Reporter* asks what attracted him to the role and how he plans to transform business development at Imperial.

How did you get into the business world and how did your career progress?

I started my career as a graduate trainee in the civil service and was lucky enough to be sent on a secondment to industry. Tube Investments—the engineering company I was seconded to—offered me a job on the back of this and my career took off from there. I joined Cable and Wireless in 1989 and was promoted to the main board six years later with responsibility for all their global businesses. I then moved to run the telecoms systems division of BICC before building a portfolio of three chairmanships and one non-executive directorship with two start-up companies and two that floated on the London Stock Exchange, all still in the telecoms sector. In 2001 I joined the board of National Grid and spent seven years successfully growing their non-regulated business division, as well as leading corporate business development.

With such a successful career why did you decide to leave the corporate world?

As a result of a shift of corporate strategy, National Grid decided to refocus on the core and sell the majority of a division I had grown, generating £3 billion. I was looking for a CEO or chairman role when the phone rang about the Pro Rector position at Imperial. I was attracted by the outstanding reputation of the College, and by the challenge of applying my commercial skills in a very different setting. After working in a corporate sector for so long it was also about giving something back. I knew turning my back on the conventional corporate career track would be something of a risk, but also knew it was a once in a lifetime opportunity.

What are the key aims of your role?

There are three: to focus on increasing corporate research funding; to grow Imperial's consultancy company, ICON; and to leverage the College's brand and work closely with academic staff to gain positions in new commercial ventures either in the UK or internationally.

How are you going about this?

The Commercial Development team has been restructured over the last six months. Firstly the Business Development team is now smaller and the majority of it will now be embedded in the faculties, enabling them to work much more closely with the academics on the larger, complex multidisciplinary bids for corporate research funding. Secondly, we are instituting internal processes to coordinate and raise the level of our relationships with our largest corporate partners. Finally, three new positions will focus on commercial projects, ensuring that we have the right project management and business skills to maximise value from the unique set of commercial opportunities available to the College

How can the Business Development Managers help academics?

Successfully competing for research grants is bread and butter to Principal Investigators and we have been more successful at this than any other UK university. However, to identify and win the larger and more complex bids is a different order of challenge. Here BDMs can help through their relationships with corporate partners, by understanding and translating companies' needs, and by providing a bid management resource to pull together integrated proposals.

What are your plans for new commercial ventures?

Just as Imperial has led the way in corporately funded research and in generating successful spin-out companies, we are also blazing a trail by exploring a number of major commercial projects. Some of these opportunities are purely commercial and closely linked to our medical activities. Some are commercially funded research facilities—the robotics centre in Qatar is a good example and we are pursuing a couple more similar to this. We are also in the early stages of exploring a small number of education opportunities overseas that could be commercially funded.

Is ICON's role changing?

ICON already has a great track record in supporting the consultancy work of individual academics, and for them it is very much business as usual, with the team focused on growing its core activities.

How has the economic downturn impacted on the role of commercial development at Imperial?

My appointment and the restructuring of the function is a reflection of the need to diversify and grow the College's sources of income. Clearly as the economic downturn begins to have an impact on the higher education sector, this need has never been greater.

What do you hope to achieve over the next year?

My first priority is to complete the gaps in my team and to ensure close cooperation with the academics. The next priority is to deliver! I would hope that over the next 12 months we will help the College to win one or more large complex multidepartment bids for corporate research funding, deliver one commercial project and have made demonstrable progress in positioning the College for other key projects.

Why are you the man for the job?

I have worked for most of my career in companies where engineering and science more generally have been crucial. So I understand what companies are looking for from Imperial. I have also had extensive international business development experience, creating or acquiring businesses—often in joint ventures—in the US, Europe, Middle East and Asia. That said, I and my team are not here to transform the College into a commercial operation! Our task is to support the core mission of the College and to play our small part to help ensure that Imperial can remain a world leader in scientific education and research, and thus create value for the economy and for society at large.

—EMILY ROSS, COMMUNICATIONS

inside* story

inventor's corner

Optical sensor coatings

Dr Jörg Feist, CEO and co-founder of Southside Thermal Sciences (STS) Ltd has come a long way since his PhD in the Department of Mechanical Engineering. For his research project he set himself the challenge of investigating the thermal properties of various coatings and after only three months he made a major breakthrough. He developed an optical sensor coating using small amounts of UV-sensitive phosphors, which can work at high temperatures and record the erosion of the coating.

Jörg patented the idea in 2001 and went on to co-found the company Southside Thermal Sciences in 2002 with MBA student Udo Dengel (Business School) and PhD student Simon Hubbard (Mechanical Engineering). Their aim was to revolutionise the electricity generation business.

Gas turbines incorporate components that are subjected to immense thermal stresses, leading to wear and tear through oxidation. Using Jörg's sensor coating on gas turbines would extend their life and allow the engine to operate at its optimum temperature, resulting in greater efficiency and lower CO_2 emissions.

Phosphorus coating on a magnified turbine component

The team spent a year targeting the turbine industry but realised their innovative product was up against big competitors. As a result, they switched their focus to the power generation industry as there were more opportunities in this field.

Jörg explains how hard the process has been: "The year my first daughter was born, I had no income for six months! I spent all of my days in the office, then I had to spend my evenings in the lab." But his determination has paid off. The company's last funding round was led by Schlumberger Holdings Ltd (the world's leading oilfield services company) and included investment from Imperial Innovations raising £875,000. STS have also just won a contract to provide coatings for a large UK power plant.

—ANOUSHKA WARDEN, IMPERIAL INNOVATIONS

If you have an idea with commercial potential contact the Imperial Innovations team: **www.imperialinnovations.co.uk**

mini profile

Alice Bell

Dr Alice Bell, Lecturer in Science Communication, on science for kids.

What do you do at Imperial?
In addition to lecturing, my research focuses on science media aimed at children, especially books. I look at how science and scientists are portrayed through their words and the images, and interview authors and illustrators to learn more about their motivations.

What inspired your research?
I was working in the children's galleries at the Science Museum while I was doing a BSc in History of Science and Science Communication at UCL, and I realised that there was little in my degree that prepared me for my job. Children interact with science in school, in museums, or just by reading a book at the doctor's. I thought this was an area that needed to be explored.

How does your research apply to the real world?
Humanities research probably has its biggest impact through students. We use research to help our students to reflect on the moral, ethical and social implications of the science they might communicate when they leave us. I also talk to professional science communicators and scientists about my research.

What is unique about your role at Imperial?
Humanities researchers at Imperial specialise in science and technology issues which makes my job much easier. Sometimes when I present my work to children's literature scholars they say "Urghh, I can't look at science!". But the humanities researchers here don't have that sort of fear.

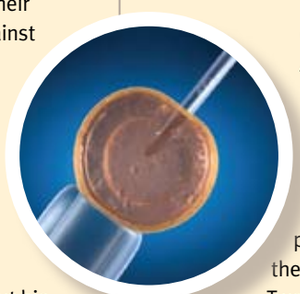
What do you enjoy most about your role?
I really love teaching the undergraduates. I teach a huge range of topics, and we have biologists, physicists, medics, chemists and engineers all in the same classroom. It's very exciting to be able to interact with such a large and diverse group of people and see them think through entirely different perspectives on their degrees.

—MICO TATALOVIC, MSC SCIENCE COMMUNICATION

SCIENCE FROM SCRATCH

As explained by Isabelle Kaufmann, MSc Science Communication

Stem cells



Our bodies contain many different types of cells, like blood, skin or liver cells, which are highly specialised and fulfil one function, for instance, carrying oxygen or producing insulin.

These specialist cells originate from 'stem' cells, unspecialised progenitor cells. Stem cells can divide indefinitely; if they divide, they can either remain a stem cell or become specialised.

Two classes of stem cells exist. Embryonic stem cells are found in embryos and can develop into every cell type in the body. Adult stem cells exist in certain tissues of the adult body, like the bone marrow or skin, and can become specific cell types only. They provide the body with a self-replenishing reservoir of cells to regenerate and repair tissues.

Stem cells are medically important because they could be used to generate tissues and organs for transplantation to treat diseases like cancer.

Is there a phrase 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.

blog SPOT

Student blogger David on

the joys of Twitter:

"It allows people who have nothing in common, or from wildly different social positions, to talk to each other ... When I joined... I was able to follow the science Minister, Lord Drayson. I got his thoughts about his daily activities, but I also got into a couple of conversations with his Lordship, admittedly one was about illegal copies of the latest film about Le Mans (read into that what you will re expenses...), but also about serious matters of science policy. I don't know whether my thoughts made a difference... but at least he actually heard them. That, I feel, is a genuinely good thing."

www.imperial.ac.uk/campus_life/studentblogs

Doing the **moonwalk**

Kate Cooke, Technician (Biology) describes her experience of taking part in the Moonwalk—a 26.2 mile charity walk to raise money for breast cancer—wearing a decorated bra.

"It's 21.00 on a Saturday evening and for the fifth year running, I'm sitting in a huge pink tent in Hyde Park waiting to start the Moonwalk. There's a buzz of excitement and anticipation. Everywhere you look is a riot of colour and anything and everything from flowers and balloons to fur and coloured lights has been used to decorate people's bras.

It's 23.00 and with Vaseline on our feet, we've warmed up and are ready to go. Our section gathers at the start, the klaxon goes and we're away—26.2 miles to go until breakfast.

Finally those training walks around the Chilterns come into play. Since the autumn we've been building up the distances, 12 miles initially increasing to 20 miles by May. We leave Hyde Park, encouraged by family and friends, cheering us on, who later supply us with much needed coffee and chocolate.

Past the Palace, on to Westminster, along the river and on up to St Paul's. Back to the river and over London Bridge, follow the river past the Eye, where the half-mooners leave us. Keep going to Battersea Park, counting off the mile markers, back across the river, the half way marker. Up to Kensington Gore, keep going past the barracks, turn right and there's Harrods. Dawn is breaking as we hit the King's Road—window shopping—and back to the Embankment, heading for

Westminster, only another four miles to go.

Still being cheered on, we're back in Hyde Park, you can hear the cheers for those who are finishing—26 mile marker—we can see the finish, family and friends have turned out again to encourage and we're there, tired but happy and not a blister to be seen. It's time for champagne—pink of course.

To sponsor Kate visit:
www.justgiving.com/katecooke1

TIME OUT

Jikishin Jujitsu Club

"It's fun, keeps you fit and is a great form of self-defence." These are three good reasons why more staff should join the Imperial Jikishin Jujitsu Club, according to its Sensei (lead instructor) David Tedora.

The Club teaches a form of Japanese martial art which, according to David, started several hundred years ago as combat training for Samurai warriors.

One week members may be twirling Nunchuku sticks, another week will find them grappling with groundfighting.

"We use weapons including the Katana (Samurai sword) and Nunchaku sticks, but our emphasis is on skill and technique, and we try our very best not to injure anyone," says David.

Jujitsu—Japanese for 'the art of pliability'—is popular all over the world, especially for training by military units and law and order enforcers. The style practised at Imperial is Jikishin (meaning 'noble mind') Jujitsu.

"Because it's based on technique, you don't have to be super-strong to be good at it," says David. "It is definitely something that men and women of all ages can enjoy and benefit from."

The Club currently has around 20 members and would welcome more recruits. You don't have to have martial arts experience, although it would be useful. The Club uses the belt grading system—from white to black (first dan) with further dan levels above that (David is a second dan). Gradings take place every three months and there are also regular tournaments and competitions.

—WENDY RAESIDE, COMMUNICATIONS

Members practising at one of the two dojos (above); sensei David Tedora, Head Instructor of the South Kensington club (below)

The facts

- **Meeting times:** Tuesdays, 19.30 at the Holland Club (basement function room). Moves to Wednesdays every second week of the month.
- **Alternative venue:** Mondays, 20.00 at Spinnens Acre Junior School, Sultan Road, Lordswood, Chatham.
- **Cost:** First lesson free, then £7 per week. £31 charge to join the Jikishin Jujitsu Association.
- **Website:** www.imperialjujitsu.co.uk

The widening gap between school and university

Dr Mo Al-Qaisi is an Honorary Lecturer in Imaging from the Division of Medicine and in 2008 he completed a Certificate of Advanced Study in Learning and Teaching (CASLAT)—a postgraduate qualification for those who teach in higher education. He describes his experience of the annual Centre for Educational Development talks in May for academics who have completed CASLAT. Dr Al-Qaisi says:

"The event represented an opportunity to meet the CASLAT team again and to hear about a range of hot topics. This year's talks were absolutely electric—they focused on the widening gap between science, technology, engineering and mathematics as taught in school and at university.

Professor Michael Reiss, from the University of London's Institute of Education, gave interesting research insights on the subject, in particular the reasons behind the reduced interest among school children in science. Among contributing factors was a lack of specialist teachers. Professor Reiss also argued that science teaching at secondary level fails to engage children's developing sense of identity. They do not see science as relevant to their lives, so they find studying it demotivating. However, he expressed confidence that top institutions like Imperial would continue to evolve strategies to mitigate any adverse effects of changes in school science education. Professor Reiss's talk was preceded by a perspective on science teaching from the field of biochemistry, given by Imperial's Dr Jane Saffell (Cell and Molecular Biology). In addition, a very lively question and answer session reflected how relevant this topic was to people who teach at Imperial. The session ended with a chance to enjoy a glass of wine and to meet former and current CASLAT friends again."

Student success at the **World Cup Regatta**

Last month, Adam Freeman-Pask, who is studying on the Science Communication MSc course, won a bronze medal in the single scull race (competitive racing in small light boats) at the Rowing World Cup in Banyoles, Spain. Steve Trapmore, Head of Rowing at Imperial, describes the event:

"Adam—who is on the Imperial Rowing Scholarship Scheme—has performed consistently well this season, winning the Great Britain long distance trials in February. Racing in a single scull on the world stage was a great opportunity to set himself apart from the domestic competition. Adam finished third in the final and won his first senior international medal. It's a fantastic achievement, and as the only GB lightweight to get a medal at the Regatta it should stand him in good stead for the next phase of selection into an Olympic boat class. It is particularly exciting as it is the first time a student from Imperial has won a sculling medal at a World Cup regatta!"

VOX POP

What did you get out of the Springboard Women's Development Programme?

Last month, 29 women completed the Springboard Women's Development Programme—a personal development course for women intended to help build confidence in the academic environment. *Reporter* went to meet four of the women on the course to see what they thought.

For more information:
www.imperial.ac.uk/staffdevelopment/postdocs/workshops/springboard

I went on the course because I was interested in personal development and learning how to better approach issues in the workplace—getting involved in Springboard has really helped me to see how to deal with everyday challenges. I also learnt the importance of networking and developing the confidence to meet and chat to people in order to advance my career.

DR MAJA PETKOVIC (SORA)

Before I started the programme, thinking about the future felt completely overwhelming but over the last three months I've had so much advice, I feel I've gained much more confidence. I've been given the confidence to go for so many things I'd previously just thought about doing—for example, I've started tutoring undergraduates and I've also begun supervising an external seminar series.

DR JODIE TESTAR (NHLI AND KENNEDY INSTITUTE OF RHEUMATOLOGY)

I feel much more positive about everything, I'm more enthusiastic, more focused and determined. I also feel much more confident about going for things such as interviews and promotions because of all the coaching. I also really enjoyed the female speakers we had on the programme—they were really motivational—it was good to see that, even if they didn't have completely linear career paths, they have been very successful.

DR DEBORAH CLARKE (NHLI)

The course has made me realise that lots of people have similar concerns and experiences in the workplace, which is really comforting and has helped me to think more clearly about the next steps in my career. It has also showed me that I need to create some more time for myself—I work really hard but now I am making time to do things I enjoy, like going to the gym after work.

DR HANDE KALKANCI (MATERIALS)

obituaries

JOSEPH ALFRED KITCHENER

Dr J.A. Kitchener died on 9 March 2009, aged 93. Robert Pugh, who worked with Kitchener early in his career, pays tribute: "Joe was one of the foremost colloid scientists in the UK. Joe recognised the importance of studying the fundamentals of complex industrial systems, particularly in the area of surface and colloid chemistry.

After Joe completed his PhD in 1938, he joined the Imperial staff in Physical Chemistry, where he studied ion exchange, resulting in monographs including a revised version of *Findlay's Practical Physical Chemistry* (1954). By 1956 he was Reader in Physical Chemistry and was awarded a DSc in 1958. In 1961 the Department of Mining and Mineral Technology made him Reader in the Science of Mineral Processing. Joe completed 40 years' service when the College bestowed the title of Senior Research Fellow upon him. He retired in 1985.

In his later years, he lived in Hertfordshire with his wife Phyllis. Joe always had his microscope at hand, last studying an unusual algal bloom on his pond and keeping the local library busy with requests for reference books.

Joe Kitchener's scientific work, throughout his career, is characterised by brilliant diagnostic experiments, perceptive interpretations and a remarkable clear exposition. Throughout his career Joe influenced, guided and educated many international scientists and engineers, and was an inspiration to all his colleagues. He was extremely modest and quintessentially unassuming about his career. In retirement, when asked what he had done at the College he would answer: "Not a lot. Did some research and teaching, wrote some papers, that was all there was really". He is survived by a son and two daughters [his youngest pictured]."

NORMAN ALFRED FISHER SMITH

Dr Norman Smith, Reader in History of Technology, died on 24 March 2009. College Archivist Anne Barrett pays tribute: "After four years working in civil engineering at the University of Canterbury, New Zealand, Norman joined Imperial in 1966 to become the first Leverhulme Research Fellow in the Department of History of Science and Technology. Working with the late Professor Rupert Hall he jointly edited *The History of Technology* journal. Norman was an authority on the technology of ancient and medieval structures, focusing on Spain's ancient water systems. His early book *The History of Dams* remains the definitive text. Between 1968 and 2007 he gave valuable papers to the UK's Newcomen Society meetings and students and staff benefited from his knowledge, wit and charm. He recognised environmental issues in *Man and Water* (1976), teaching undergraduates to view civil engineering ethically. He took early retirement in 1993 which allowed him to pursue a variety of interests, from Gothic cathedrals and railway history to jazz, motorbikes and foreign travel. In his mind 'No Entry' was a positive invitation to explore, which sometimes led to foolhardy investigations of ancient remains. His History of Technology Group, including some of his mature students, continue to meet in the College Archives.

long service

Reporter shares the stories of staff who have given many years of service to the College. Staff featured celebrate anniversaries during the period of 1 June–3 July. Data is supplied by HR and is correct at the time of going to press.

—WENDY RAESIDE, COMMUNICATIONS

20 years

- Dr Maggie Lowrie, Senior Lecturer (Neurosciences and Mental Health)
- Professor Nilay Shah, Professor of Process Systems Engineering (Chemical Engineering and Chemical Technology)
- Mr Fraser Wigley, Technical Manager, UK Structural Ceramics Centre (Materials)
- Dr Daryl Williams, Senior Lecturer and Director of External Relations (Chemical Engineering and Chemical Technology)
- Dr Lan Zhao, Non-Clinical Lecturer (Investigative Science)

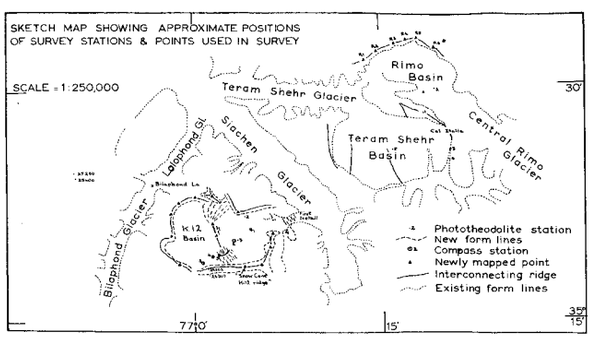
30 years

- Professor Christopher Mathias, Clinical Professor (Neurosciences and Mental Health)
- Mr Malcolm Aldridge, Financial Controller (Finance)
- Professor David Potts (Civil and Environmental Engineering)

SPOTLIGHT

Professor David Potts, Deputy Head of the Department of Civil and Environmental Engineering
30 years

"It's a challenging and interesting job and I've never wanted to work anywhere else," says Professor David Potts who is celebrating 30 years' service in the Department of Civil and Environmental Engineering. Professor Potts joined the College as a Lecturer in Soil Mechanics in 1979 following a PhD at Cambridge and a period working for Shell in Holland on the stability of offshore structures. "A colleague from Cambridge told me about the Imperial lectureship—I hadn't really thought of teaching before—and it was the right job in the right place," says Professor Potts. He was promoted to Reader in Soil Mechanics in 1989, becoming Professor of Analytical Soil Mechanics in 1994 and GCG Professor of Geotechnical Engineering in 2006. Most of Professor Potts' time is spent researching numerical models to stabilise earth-retaining structures—his computer software was used to find a solution to strengthen the Leaning Tower of Pisa. He was made a Fellow of the Royal Academy of Engineering in 2001.



Icy endeavours from 1957

The scan of the report from the Imperial College expedition to the Karakoram mountains of Pakistan in 1957 has been added to the Imperial College Exploration Board website. The expedition's purpose was to survey the area's geology and glaciology.

Read the report: **www.imperial.ac.uk/expeditions/previous/1957karakoram**

INSPIRE:

Innovative Scheme for Postgraduates in Research and Education

Nine months ago, *Reporter* interviewed Dr Vincent Piccio, who had just embarked upon Imperial's Inspire scheme—a programme in which participants spend seven months studying towards a Postgraduate Certificate in Education (PGCE), then 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. In his last interview (*Reporter* 197), Vincent was working in Riddlesdown High School and was getting his head around planning lessons and dealing with some of the tougher kids. As the PGCE draws to a close, *Reporter* asked Vincent to share his thoughts on the last nine months. He said:

"Since last year I have been teaching at a much smaller girls' school—St Saviour's and St Olave's Church of England School in Elephant and Castle. I've been teaching 15 lessons per week which I never would have been able to cope with when I started and even the planning is getting a little bit easier—I have learnt you don't have to be perfect.

The INSPIRE scheme has been absolutely brilliant and really intense. We've worked long hours, gone without sleep and learned about the importance of good communication. The amount of support you get on the scheme is unparalleled—the whole experience has been very personal as we've formed relationships with the PGCE students, Dr Naheed Alizadeh (the project manager at Imperial) and the course tutors at Canterbury College.

The PGCE has been even harder than I thought, but the pupils' enthusiasm for new topics really makes you remember why you liked subjects in the first place. For example, I took a year 8 class and did a lesson on how fossils form using shells and plaster of Paris—the pupils had seen fossils before but never really understood where they came from. It was great seeing it finally coming together. I also really enjoyed bringing the year 12's to Imperial for a science workshop on stem cells with Dr Sara Rankin from NHLI. None of them had been inside a proper lab before—I think the visit really had an impact.

Today I handed in my portfolio with evidence of what I have achieved over the last nine months. All the PhD students passed the PGCE and all are going on to teaching. As for me, I'm taking a few months off before my job begins, teaching 11 to 18-year-olds at Dartford Grammar School—I'm looking forward to getting the chance to work with pupils for a long time and helping them to progress."

—EMILY ROSS, COMMUNICATIONS

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

Welcome
new starters

Dr Bruce Anderson, Grantham Institute for Climate Change

Ms Maria Arenas, Accommodation Services

Dr Katerina Artavanis-Tsakonas, Cell and Molecular Biology

Dr Mohammadreza Bahmanyar, Institute of Biomedical Engineering

Ms Judy Beard, Development and Corporate Affairs

Dr Ariane Blum, NHLI

Dr Lorna Crowhurst, Chemistry

Miss Lauren Helps, Catering Services

Miss Louise Hull, SORA

Dr Lijun Ji, Materials

Dr Diego Kaski, SORA

Mrs Eva Kassab, SORA

Dr Karen Kerr, SORA

Dr Jordi Lopez, Clinical Sciences

Dr Tiejun Ma, Computing

Mr Michael Mueller, NHLI

Mr Rhodri Nelson, ESE

Dr Kathleen O'Reilly, Epidemiology, Public Health and Primary Care

Mr Stavros Petridis, Computing

Ms Jasmina Saric, SORA

Mr Mark Woolley, Registry

Farewell
moving on

Dr Karen Buckland, NHLI

Dr Dominic Bullas, SORA

Ms Maria Carey, SORA

Dr Zhuo Chen, Civil and Environmental Engineering

Dr Linus Dahlander, Business School

Ms Caroline Druce, Catering Services

Dr Karine Enesa, Investigative Science

Mrs Bernadette Fitzgerald, NHLI

Dr Elena Hackl, Chemistry

Dr Kumar Mande, SORA (5 years)

Mr Johannes Meintjies, Catering Services

Mrs Bree Neale, Business School

Ms Julia Sinclair, Neurosciences and Mental Health

Mr Siarhei Sopach, Catering Services

Mr Pankaj Vaishnavi, Mechanical Engineering

Dr Peter Washer, SORA

This data is supplied by HR and covers the period 10 May–30 May. 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.

moving in. moving on.

An insight into the world of games and media

GAME 09, which was held at Imperial's South Kensington Campus in May, was an opportunity for students to meet and network with about 200 developers, researchers, and former and present students all with a technical interest in computer games, film and media. Tristan Allwood, a PhD student working in the Department of Computing, describes his experience of the event:

"The day consisted of a multitude of engaging talks covering everything from simulating 40,000 neurons on a graphics card, to techniques for layering sound effects to get the perfect gun sound for use in video games. On the way we were exposed to the gritty problems of managing and building all the source code and assets needed in a game, and how virtual worlds can, and are, being used for healthcare training.

What was particularly satisfying was seeing that research collaborations between games companies and Imperial are taking place in many different domains. For example, artificial intelligence (AI) techniques for creating computer opponents and automatically generating levels for games. Especially nice were the demos of AI opponents and software tools developed for the popular indie game Defcon as a joint project between Imperial and Introversion Software."

speak out

Story ideas?

We welcome contributions from across the College. The next publication day is 2 July. *Reporter* is published every three weeks during term time in print and online at **www.imperial.ac.uk/reporter**

Contact Emily Ross:
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events highlights

FOR COMPLETE DETAILS:
www.imperial.ac.uk/events

11 June 2009

18 JUNE ▸LECTURE/DEBATE

The origin of the universe

Imperial's Astrophysics Group presents the first session of its debating series asking fundamental questions about the universe. Michael Rowan-Robinson, Professor of Astrophysics, and the Reverend Dr John Polkinghorne will tackle what the Big Bang means from both a scientific and a theological perspective. Professor Michael Rowan-Robinson is a world-leading figure in the development of infrared and submillimetre astronomy and observational cosmology. The Reverend Dr John Polkinghorne is a particle physicist and theologian. He stood down from his professorial chair in Cambridge to become an ordained minister of the Church of England.

21 JUNE ▸ MUSIC AND ART

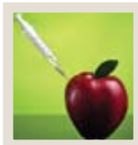
Exhibition Road Music Day

London's premier cultural quarter will be alive with the sound of free live musical performances on Exhibition Road Music Day. Big bands and ensembles from Imperial and the Royal College of Music will be performing throughout the day and there will be interactive workshops, talks and tours on offer. With a huge range of musical genres from classical, folk, jazz and fusion. Music Day is the capital's contribution to *Fête de la Musique*, a renowned worldwide celebration of music on the longest day of the year.

www3.imperial.ac.uk/news/musicday2009

15 JUNE ▸ LECTURE

Novel approaches for vaccine design: bypassing T reg activity enhances T cell-mediated immunity



Dr Tim Sparwasser, Technische Universität, Munich

16 JUNE ▸ INAUGURAL LECTURE

Regulating insulin secretion: can we correct the deficiency in type 2 diabetes?

Professor Guy Rutter, Chair in Cell Biology (Medicine)

17 JUNE ▸ LECTURE

Dinosaurs and the evolution of avian bipedalism

Dr John Hutchinson, Reader in Evolutionary Biomechanics, The Royal Veterinary College

17 JUNE ▸ INAUGURAL LECTURE

Exciting waves: properties and uses of ultrasonic guided waves

Professor Michael Lowe, Professor of Mechanical Engineering

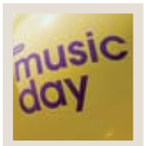
18 JUNE ▸LECTURE/DEBATE

The origin of the universe

Professor of Astrophysics, Michael Rowan-Robinson and Reverend Dr John Polkinghorne

21 JUNE ▸ MUSIC AND ART

Exhibition Road Music Day



Day of free live music events

23 JUNE ▸ LECTURE

Pizzas at midnight: what it's really like starting your own business

Professor Richard Kitney, Professor of Biomedical Systems Engineering, and Director of the Graduate School of Engineering and Physical Sciences, and Dr John Hassard, Reader in Physics and Chief Technology Officer of deltaDOT Ltd

23 JUNE ▸ INAUGURAL LECTURE

Mountains on the move: the interplay between fluid pressure and deformation during the evolution of a fold-thrust belt

Professor John Cosgrove, Professor of Structural Geology (Earth Science and Engineering)

24 JUNE ▸INAUGURAL LECTURE

In the loop: who controls the controllers?

Professor Nina Thornhill, Professor of Process Automation (Chemical Engineering and Chemical Technology)

24 JUNE ▸ LECTURE

Complexity and networks—sociology

Speakers including Professor David Fisk, BP/RAEng Chair in Engineering for Sustainable Development and Dr Pietro Panzarasa, School of Business and Management, Queen Mary, University of London

24 JUNE ▸ LECTURE

Putting the pieces together: integrative modelling of the respiratory system

Dr Kelly Burrowes, Oxford University Computing Laboratory

1 JULY ▸ DISCUSSION

Rector's Q&A

A chance for staff at Charing Cross Campus to put their questions to the Rector

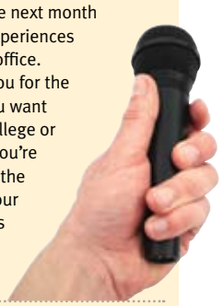
Stay in the loop

✉ 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

take note

Interview the Rector

Reporter will be interviewing the Rector, Sir Roy Anderson, in the next month to find out about his experiences during his first year in office. We're now looking to you for the questions. Whether you want the Rector's take on College or educational issues or you're simply intrigued about the man himself—this is your chance to seek answers to the questions that interest you.



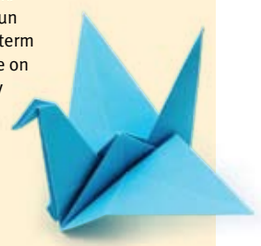
Send your questions to the Editor: **reporter@imperial.ac.uk** *with the subject heading 'Interview with the Rector'*

VOLUNTEERING

Weekend club volunteer

Project ID:	1298
Organisation:	Kith and Kids
Time:	12.30–17.00
Location:	Various locations in north London

Volunteers are needed to help out with a range of creative and fun activities to support the development of Kith and Kids members who have a disability. Kith and Kids' overall aim is to empower families living with disability to overcome their social isolation and access the services they need. Volunteers will work with members in order to build friendships, develop skills and confidence. The Weekend Club is run fortnightly during term time. It takes place on alternate Saturday and Sunday afternoons. There is also a weekday option.



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**

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